

TRANSLATION
OF THE
DEEWAN PUSUND,

BEING

Treatise

ON



Agriculture and Revenue Accounts ;

TO WHICH IS APPENDED

A SHORT ESSAY
ON HUSBANDRY,

AS APPLICABLE

TO THE

PROVINCE OF BEHAR.

BOTH RENDERED INTO ENGLISH FROM THE ORIGINAL PERSIAN,

WITH CONSIDERABLE IMPROVEMENTS AND ADDITIONS,

BY

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TRANSLATOR'S PREFACE.

THE original of the following sheets was put into my hands by a gentleman in the Civil Service, with a recommendation to translate it into English. In attending to which I have rendered rather a free than a literal translation of the author, and, in some instances, have been obliged to deviate from the original text; not however without assigning my reasons for so doing, and, where the subject required it, affixed some notes in elucidation.

In the 2d Chapter of this treatise, from the nature of the subject, I have unavoidably branched into a more extended view of it than was comprehended in the original, from the desire of affording all the information and explanation possible in my power, that so useful and interesting a theme demanded. In prosecution of which, I have not failed to profit by, and engraft into the original stock, whatever appeared useful or deserving of notice, from other sources, occasionally adding what my own practical experience enabled me to suggest; I hope I have thus treated this subject in a more ample and systematic manner than the original. The Appendix subjoined to this Chapter I thought requisite, in order to assist the general reader in his search after any particular produce, by referring to its title in the language most familiar to him. The nomenclature is therefore given in English, French, Latin, Arabic, Persian and Hindoe.

The omission in the 2d Part of the 1st Chapter of the Arithmetic, recommended by the author, was a point on which I felt myself obliged to resolve, as they were both meagre and deficient in perspicuity, and therefore unnecessary. The same considerations operated against my giving a full translation of the Forms of Documents adverted to in the 4th Chapter. In lieu of these I have added in the 3rd Chapter, as matter more useful, form of an Index by which Records of the Revenue Department may be more efficiently arranged and kept.

In explaining the method of reaping the different products and their appropriation afterwards, I was insensibly led to remark upon some of their medicinal virtues, and, as the subject appeared to me interesting, (provided their ascribed properties were duly authenticated,) I extended my inquiries to the Persian Lexicons and Herbals, English Encyclopedias, &c. Among the rest I derived considerable help from Mr. Phillips' late valuable publication entitled, "The Cultivated Vegetables."

The Essay on Husbandry, as applicable to the Province of Beliar, (the Persian copy of which I obtained from a different source) I have left in its original state, not having any particular knowledge of the mode of cultivation in that Province.

I had at first intended to make some introductory observations in regard to the general state of Agriculture in this country, as it is but too well known that this branch of knowledge still is, in the greatest part of India, in its original crude state, and that much information and exertion are wanted towards a thorough improvement in tillage, the proper rotation of the crops, the introduction of other useful plants, and, lastly, an improvement in the implements used in husbandry; but apprehensive that my own limited experience in this particular would not bear me out in the requisite detail, I leave the subject to abler hands, and beg to conclude this trespass on the time of the

the reader, by citing the following general remarks on Agriculture by Dr. Johnson and the Edinburgh Reviewers, respectively.

"If we estimate dignity by immediate usefulness, agriculture undoubtedly is the first and noblest science, yet we see the plough driven, the clod broken, the manure spread, the seeds scattered, and the harvest reaped, by men whom those that feed upon their industry will never be persuaded to admit into the same rank with heroes or with sages; and who, after all the confessions which truth may extort in favour of their occupation, must be content to fill up the lowest class of the commonwealth, to form the base of the pyramid of subordination, and lie buried in all that is splendid, conspicuous or exalted." *Rambler*, No. 145.

"It is the subserviency of Agriculture to the wants of mankind, connected perhaps with its sober and healthful pleasures, and the spirit of independence which it fosters, that has secured to it in every age, the first rank among the useful arts, and obtained for it in every country the patronage of those most eminent for wisdom and virtue. The honors paid to it in China take their date from the remotest antiquity; and through the purer ages of the Roman Republic, it was held in the highest esteem. In our own country the name of Russell, so proudly distinguished in the annals of freedom, stands pre-eminent among those who have patronized this noble art; and the great founder of American liberty, when the toils and dangers of warfare were ended, retired to the cultivation of that soil, which his valour and his virtue had rendered free.

"Thus honoured and encouraged by the great, and actively pursued as a profession by a large portion of the people, the art of Agriculture has made considerable progress." *Edin. Rev. Vol. 22d. No. 44. Page 251.*

LEWIS DACOSTA.

AUTHOR'S PREFACE.

THE TREATISE I now humbly offer to the public, under the title of *Deewan Pusund*, comprizes four Chapters.

CHAPTER 1st. Treats of the culture of the different Soils, the Revenue thence derived by Government, the Forms in which Accounts are kept, and Rules of Arithmetic. This Chapter is divided into two Parts as follow.

PART 1st. Contains observations on the culture of the soil, the Government Revenue, and Forms of Accounts connected with the Assessment or Settlement.

PART 2d. Comprehends Forms of Revenue Accounts, and Rules of Arithmetic. (Page 57.)

CHAPTER 2d. Exhibits the Produce of the Land, and is divided into two Parts. (Page 112.)

PART 1st. On the Produce of the Khureef or Spring Harvest. (Page 116 and 137.)

PART 2d. On the Produce of the Rubee or Autumn Harvest. (Page 128 and 213.)

CHAPTER 3d. Contains a complete List of the Establishment of officers required for the Revenue Service, specifying their duties respectively, and is divided into 2 Parts.

PART 1st. List of the Establishment appertaining to the Sudur Kuchchree or the Principal office. (Page 242.)

PART 2d. List of Establishment appertaining to the Tulseeldaree or Mojsussul Kuchchree, or office of the Interior. (Page 249.)

CHAPTER 4th. Comprehends Forms of all Documents used in the Revenue Department. (Page 253.)

CHAPTER 1st.

CHAPTER I.

PART 1st.

III. 2.

Observations on the Culture of the Soil; the Government Revenue, and Forms of Accounts.

In the month of (1) *Asarh* (or the commencement of the Rainy Season) the *Amil* (or head Collector of the Revenue) proceeds in person to every village under his management, assembles the *Asamees* (cultivators) and directs their zealous attention towards the cultivation of their respective divisions of land.—To such of the husbandmen as are in distressed circumstances, advances of *Tuqaree* (pecuniary loans) are made, in order that no part of the arable lands may remain neglected, or, for want of means, the cultivation relinquished, but that *Jins-i-kamil*, or grains, &c. of high value, may be cultivated throughout.

The *Amil* having thus arranged, grants to each of the cultivators, a document under his Seal called *Putta*, (2) (vide Chapter 4th) in order that from the apprehension of a greater demand being made on them than the settled revenue, they should not neglect the husbandry; the *Putta* strictly binding the Government, that no unfair advantage should be taken of increase consequent on agricultural improvements of the husbandman.

The

(1) The time between June and July.

(2) A Deed of Agreement.

The mode of using the *Hul* (plough) may thus be explained: the yoke being well secured to the necks of two draught bullocks, the ploughman guides the plough by its handle that the *Phar* (shear) penetrates and breaks up, or tears, the earth to about 6 inches deep; thus preparing in the course of the day about three beegahs of land, provided the cattle and the driver be strong and able, but if aged or feeble, the result of their daily toil hardly exceeds one beegah.—The ploughman begins his work in a circular manner from the extremity of the field to its centre, and, from thence re-traces his course, but finds this part of his task more laborious in consequence of the loose state of the soil, (arising from the first ploughing) which so exhausts the bullocks, that about one beegah only can be ploughed in the course of the whole day. The husbandman, while engaged in this last ploughing, scatters the seed over the ground thus prepared. The two harvests require a different kind of preparation.—For the *Khureef* harvest the land need only be tilled twice, or sometimes thrice, according to the nature of the soil; but for the *Rubees*, the soil must be well pulverized, by the repeated use of the plough and even the harrow, before the seeds are sown: when the seeds have been deposited, the *Putela* (Harrow) follows next in its usual course, which breaks down every obstructive clod, and the whole is reduced to a level surface: after this the fields are divided into small *Kecarees* (beds).

Ploughing, harrowing and pulverizing the soil in a proper manner being essential to good husbandry, I deem it necessary to observe that the process differs according to the quality of the soil, which is divided into the following kinds:

A Sooba comprehends several *Surkars*.

A *Surkar* several *Purganas*.

A *Purgana* several *Mouzas*.

A *Mouza* has one or more proprietors called either *Maliks* or *Mooquddums*, and the petty cultivators subject to them are denominated *Kisans* or *Asamees*. The *Asamees*, by the direction of the *Amil* and with the consent of their *Maliks*, cultivate their respective shares of land. It however generally happens that the *Mooquddums* themselves, by the assistance of their servants, cultivate some part of the land, in which case they are termed both *Mooquddums* and *Asamees*, and of course secure to themselves all the advantages which their industry procures, agreeably to the tenor of the *Putta* executed for the benefit of the *Asamees* by the *Amil*.

The revenue is paid into the *Amil's* treasury either by the *Mooquddums* or *Asamees* in the following manner.—When the Settlement is formed with the *Mooquddums*, the *Asamees* pay their respective shares to them, who remit the same to the *Amil*, together with the revenue of the land cultivated by themselves.—Such Settlement is termed *Umul-i-Modshukh-khus*. When the Settlement is concluded directly with the *Asamees*, the revenue is paid to the *Amil* by themselves, and such Settlement is called *Umul-i-Kham*.

In

MOUZA. A piece of land of undefined space but of known boundaries. It is of three kinds, viz. *Ulee*, *Dakhlee*, and *Shamlee*.

ULEE. Is that *Mouza* in the name of which the Settlement was formed in the reign of *Ukbar*.

DAKHLIE. Is that *Mouza* which in the reign of *Ukbar* was attached to the *Ulee*, and the *Jama* (or *Assessment*) of which was not defined.

SHAMLEE. Is that *Mouza* which became annexed to an *Ulee* subsequent to the time of the Emperors of *Dehlee*.

-- In the above manner the *Amil* collects and eventually remits the revenue into the General Treasury!

Thus

Muzra is a small portion of an *Estad* *Mouza* partitioned off by a *Zameendar* or landlord to his under tenants for cultivation while the remaining greater part still retained the name of *Mouza*, but on the *Muzrai* or *lesser* division returning to the *Zameendar* the Estate was then considered as comprehending 1 *Mouza* and 1 *Muzra* although the *Rugla* of land of each was not respectively defined yet the Estate was supposed to consist of more than 20 *Muzras* the generally accepted dimension of a *Mouza* of undefined space — *Muzras* however have been considered in various instances, arising from causes now exceptional as distinct Estates and therefore have their separate *Ruglas* and *Jurnas* distinguished accordingly and although the component part of an original *Mouza* under such altered circumstances they are not denominated *Mouzas*, but continue and the designation of *Muzras* or *Nakadas* as signifying a separation.

Chuk — upon the same principles as the above is a portion of land separated under a Gift of Government but on the resumption of the original owner the Estate was distinctly distinguished as forming 1 *Mouza* and 1 *Chuk* — It is also sometimes formed in a *Muzrai* and is separately assessed, but still retains the name of *Land*.

Tisra — Is the twentieth part of a *Mouza* and the lower fractions of it are called

Diswan *Dees*
Taswan *Dees*
Pitwan *Dees*
Oonswan *Dees*

Pak or (erroneously called) *Pan* — I term it a Peasant residing in one village and cultivating land belonging to another village Hence the word *Pak* is introduced for the piece of land so cultivated and the cultivation is called *Pak* or *Pachakt* — *Pak* or *Pak* is sometimes separated from the *Mouza* to which it originally belonged, and assessed under a distinct tenure It is then called a *Mukad*.

Mend or *Mendh* — Literally a bank raised to dilute floods Hence this name is given to that piece of land which is partitioned out by the *Zameendars* themselves and at some subsequent period may be sometimes separately assessed by Government.

Kajjheer — Is similar to *Mendh* but of a smaller dimension but should some of these portions be found larger it is because that several of them have been incorporated together and are now considered as only one *Kajjheer*.

Seer — Is a piece of land that had been originally exempted from the Rental as a *Nakdar* to the *Zameendar* but since resumed and is sometimes separately assessed.

Han — Is that land which from its distance from the village, or want of population was let by a *Zameendar* to his Tenant and afterward from its long alienation separately assessed by Government.

Kuray — Unavowed land — Sometimes separately assessed

Mghat or *Mghul* — Is that *Estad* *Mouza* in the name of which the Settlement was formed in the reign of *Ukbar* It may comprise either one or more *Mouzas*.

PLACES

Thus having briefly stated the system of husbandry, I shall now proceed to detail the course pursued in its several branches.

Lands intersected by roads, or occupied by forest, sites of villages, &c. remain always uncultivated, but lands in a state of cultivation are divided by the *Asamees* into *Chuhs* * (small tracts) with a view to distinguish the share of each *Asamee*. The *Chuhs* are subdivided into *K,hets* (fields), and each *K,het* has its limits bounded either by thorny plants or clods of earth. These divisions not only remove the difficulty experienced in the enumeration of the fields of each village, but also greatly assist the measurement and the assessment of the land. — For instance a field being measured from its prescribed boundaries, the produce is easily ascertained, and the revenue accordingly estimated, which, the latter, is taken either in kind or money according to the terms agreed upon per beegah.

When the revenue is received in kind, it is calculated at the average rate of the produce of the field, and such average is called *Unul-Kunl oot*, as detailed in the sequel of this Chapter.

Land is always measured by a *Jureeb* made of a thick cotton rope of 60 *Ukburee* (a) *Guz* (b) in length (41 (c) Fingers making a *Guz*). This

Rope

PURGANA — Is an assemblage of many *Muhals* placed under the charge of a *Tahseeldar*, or Petty Collector for the collection of the revenue.

ZILA — Is an union of several *Purganas* the revenue collection of which is superintended by an *Amil* or Collector and is called a District. TRANSLATOR

* *Chah* appears to be introduced here quite differently to what it signifies being a Shunkhit word mean an Estate or Farm. TRANSLATOR

(a) The term *Ukburee* is misapplied as generally to *Acen Ukburee* it is called *Palae* by which term it is a *Loakala* the present time. *Life Acen Ukburee Vol Ist Part 3d, Page 307 No 1000 a P 1101*

(b) *Guz* used in the reigns of *Ikhlar Iodee* and *Mier Temoor* measured only 32 Fingers and the one most commonly used of other emperors was of 40 fingers, but replaced by *Sholtan Ukburee* to 41

(c) A *Ukburee* measures the breadth of 6 barley corns, each barcy being equal to the thickness of 6 hairs of a horse

(d) The

Rope is divided by leathern knots into 20 equal parts at the distance of 3 yards each, and each part, or the space between the knots, is named *Gunt, ha*, and the whole termed *Jureeb-i-shust-i-dirree* or a *Jureeb* of 60 *Gunt, has*.

Annexed is a Table (d) of Land Measure.

Table of Jureeb Land Measure.

20 Oonswansees make	1 Pitwansee
20 Pitwansees	1 Tuswansee
20 Tuswansees	1 Biswansee
20 Biswansees	1 Biswa
20 Biswas	1 Beegah

The mode of measurement is explained in the 2d Part of this Chapter.

The former Government finding the measurement by a rope *Jureeb* liable to great abuse from its elastic and contractile quality, deemed it expedient to supply its place by a bamboo one (the bamboos being joined by the help of iron hooks), and on comparing the measurement of the two *Jureeb*s the following difference appeared.

A beegah of land measured by the rope *Jureeb*, and then remeasured by a bamboo *Jureeb*, a deficiency of 2 *Biswas* and 12 *Tuswansees* was found

(d) The Author appears to have fallen into a great error in forming this Table. He mentioned 20 *Oonswansees* to make a *Tuswansee*, whereas by the correct Table I have inserted, it is apparent that, 400, instead of 20, are equal to a *Tuswansee*. Vide *Ull Fazul's Aeen U'Shuree*.

found in the former, which is accounted for by the contraction of the rope, which, being wet, instead of extending 60, extended only to 56 Guz. By this it was evidently proved that 100 beegahs of land measured by the Bamboo *Jurceb* was equal to 113 beegahs of the rope *Jurceb*.

A glaring instance of the contraction of the rope appeared in the following measurement of a Cose of land,

A Cose of land was measured by an *Ubburee Tunab* (Rope *Jurceb*), and re-measured (with a view to ascertain the difference) by an *Iskunduree Bamboo Jurceb*, and both the measurements corresponded where-as the measurement of the *Ubburee Tunab* ought to exceed that of the *Iskunduree Bamboo Jurceb* by 89,800 fingers, as the following Tables plainly exhibit

UKBURREE LAND MEASURE

41 Fingers make	1 Guz
50 Guz "	1 Tunab
100 Tunabs "	1 Cose

ISKUNDUREE LAND MEASURE.

32 Fingers make	1 Guz
60 Guz "	1 Jurceb
60 Jurcebs "	1 Cose

Agreeably to the foregoing Tables,

The Ubburee Cose contains Fingers $41 \times 50 \times 100 = 2,05,000$

That of Iskundur Lodce $32 \times 60 \times 60 = 1,15,200$

Iskundur Lodce's Cose less than Ubburee by Fingers 89,800

From this instance alone of the measurement of Ubburee and Iskundur Lodce's Coses proving of equal length, and with reference to the

Table.

Tables quoted, the rope *Jacob* would appear to have contracted greatly to diminish by 89,800 Fingers.

Having given a summary sketch of the measurement of land, I proceed to explain the mode adopted for the assessment of the *Surcharge Juma*, or the Government Revenue.

To ascertain the *Kham Nikasee* (or the gross assets) of a *Mcuzá*, it is necessary that the fields, in their full harvest, be measured in the *Khurreef* and the *Rubee* Seasons respectively, which showing the exact extent of the cultivation of each *Asamee*; an estimate is, accordingly formed of the produce, and the value of the different grains ascertained.

The measurement is conducted thus: The *Zumeendars* and the *Ryuts* being assembled, a *Moochulka* (1) is taken from them, that during the measurement they will, under no plea whatever, create any disturbance, or allow any part of the cultivated land to be left unmeasured.

An *Ameen* (2) then proceeds attended by the *Qanoongoes*, *Mootsuddies*, *Putwarees* and *Zumeendars*, and, in the presence of the *Kesawens* (3) (*Maliks*), every field is measured by a *Ju'eeb* held at full length by a *Meerdeh* (4) at each end, and a third *Meerdeh* is directed to attend at the centre to report the extent of the land measured. The *Meerdehs* are also made to execute a *Moochulka* against all dishonesty in measurement. As soon as each field is measured, the result, or the *Rugba*, is written down on the spot severally, by the *Qanoongoes* and the *Mootsud-*

diehs

(1) An Indemnity Bond. (2) An Overseer (3) Masters (4) A Land Measurer.

dies, in a paper which, when completed, is called *Khusreh*, and is drawn agreeably to Form No. 1.

The *Khusrehs* of the *Qanoongoes* and *Moolsuddies* are compared together, each page of which having a total, and the last page contains a general total of the measurement of the entire day, where the signatures of the *Ameen*, *Qanoongoes* and the *Putwarees* are affixed: thus the measurement is daily continued until the whole is completed, when a Grand Total is made and attested by these persons.

From the *Khusreh* another statement called *Moontukhub* (or abstract) is drawn, shewing the total of the *Rugba* (land) in cultivation, as per Form No. 2.

To ascertain the whole of the measured land by the help of the *Moontukhub* alone, an addition of 2 other columns is requisite, one for the gross *Rugba*, and the other for land deducted on account of injury sustained by the fields, similarly to what is inserted in the *Khusreh* statement.

The *Moontukhub* shews only the total *Rugba* of each page of the *Khusreh*, without specifying either the names of the *Asamees* or the aggregate cultivation of each of them respectively. This deficiency of the *Moontukhub* is supplied in an account called *Khatabundee*, as exhibited in Form No. 3.

The *Khatabundee* is of course extended according to the number of the *Asamees* whose lands are recorded.

The measurement of the *Rubee* harvest is conducted in the same manner as that of the *Khurreef*, having a similar *Khurreeh*, a *Moontukhub*, and a *Khatabundee*. If it be necessary to bring together the produce of the *Khurreef* and the *Rubee* harvests, one *Moontukhub* and one *Khatabundee* will sufficiently answer the purpose; a detail of the proceeds being preserved in the respective *Khurreehs* of either harvests; and a total of these statements will at one view shew the exact quantity of cultivation in the *Mouza*.

The cultivation, or produce of a *Mouza*, being known, the value of the crops is easily ascertained, and a *Jumabundee* (assessment) accordingly formed, either *Mouzaewar* or *Asamecwar*, and *Puttas* executed according to local usage. The appended forms Nos. 4 and 5, shew how the *Mouzaewar* and *Asamecwar Jumabundee* are drawn.

Besides land revenue, in some *Mouzas*, agreeably to established custom, other exactions* called *Ubwab* prevail, which are of the three following kinds:

1st.

* Besides the Land Revenue and the *Ubwab* adverted to by the author, there are also the following, which have been omitted, but which more properly belong to the Land Revenue.

Bukkra.—Revenue collected from all wild produce, such as

Timber, }
Sirkee, } kinds of Reeds,
Seenk, }
Sirkunda, }

Grass—used for thatching.

Gum.

Lao.

Firewood.

Kbas—used in Medicine and *Talies*, and for odour.

Dbak Flower } used in Colouring.
called *Tesoo* }

Jhaoo (Guz. P.) *Tamarisk*.

Netkool, a kind of Reed used in making Pipes for smoking and other purposes.

Neza—used in making Persian Pens.

11. Dustoor-i-Amilaneh:

دستور عاملانہ

12. Dustoor-i-Deewanee.

دستور دیوانی

13. Khurj-i-Durbar.

خرج دربار

14. Multaneh.

ملتانہ

15. Butt-i-Zabitch,

or

Suruf-i-Sikkeh.

پتہ یا بعد یعنی مرقب سکہ

16. Sudooce Qanoongo.

مدد دوعی قانونکو

17. Damee-Patwaree Neemunnee.

دامی پتواری نیمانی

18. Khurecteh.

خریطہ

11. Money given to the *Amil* in consideration of his office.

12. Presents made to the *Deewan* in consideration of his office.

13. Presents made to the *Umda* or other subordinates, officers and persons.

14. Something taken, on account of discoloured or worn out Rupees paid into the treasury.

15. Standard exchange or difference on Rupees of sorts paid into the Treasury.

16. Two per cent given to the *Qanoongo* or the *Jumna* on the amount of Rupees paid into the Treasury.

17. Half an *Ana* given to the *Patwaree* on every Rupee of the *Dama*.

18. Money taken for making treasure bags.

THIRD.—MOOTU-FURUQAT, OR MISCELLANEOUS.

سبوم متفرقات

19 Hoondeeawun.

هوندهاون

20 Rooqqawun.

روقاون

21 Sur-i-Durukhtee.

سر درختی

22 Gao-Churace, or Kah Churace.

گاوچرای

23 Gao-Shoomaree.

گاو شمار

24 Rahdaree.

راهداری

25 Bach, h.

باچه

26 Khaneh Shoomaree.

خانه شمار

19 Discount received, from the *Asamees* who pay by *Hoondess* or Bills of exchange in-20 Discount payable by the *Asamees* for giving *Mahjun's Roogqas*, or Drafts, instead of

21 Tax upon each Tree.

22 Exaction for Pasturage.

23 Tax on Cattle.

24 Tax on every Passenger who has either a Bullock, Pony or Hackery.

25 When there is a decrease in the *Jama* from the former years, the Balance is taken26 Tax on every house or hut in the *Mouza*.

* 27 Turuq-i-Iqsim Peshet. *توروق اقسام پشہت*

توروق اصسام پشہت

* 28 Hasil i-Bazar.

حاصل بازار

* 29 Wuzn i-Kushce.

وزن کوشی

* 30 Nikas.

نیکاس

31 Ruoghun i zund.

روغن زرد

32 Pushm i-Mesh.

33 Resinan

34 Sun.

35 Chursch

36 Kumlee.

* 37 Tale.

* 38 Putfee Tar.

39 Booz.

These items although of a Miscellaneous description are called *Hir Boosat*

* 27 Poll Tax gathered from every labourer or workman.

* 28 Tax from each vender on a mart day

* 29 Money or kind taken from the *Assamees* on the weighing of Grass

* 30 Tax on the sale of Cattle

* 31 Taxation of a certain quantity of Ghee (butter) in default of which money is taken.

* 32 Sheep wool

* 33 Hemp and Straw rope

* 34 Hemp

* 35 Hide

* 36 Market

* 37 Lard Oil

* 38 Cotton made of hemp

* 39 A Sheep or Goat

* These *Minas* or *Cesses* have been capiously omitted by the author but are added by me as essential to the completion of the *Utkoh Revenue*—TRANSLATOR.

The articles of *HUBOONAT* are generally taken in kind, but sometimes in money.

In *Mouzas* where the payment of *Ubrab* has been maintained, the custom or practice still prevails; the proceeds being inserted opposite the Land Revenue in separate columns, and a grand total is given both of the *Ubrab* and Land Revenues.—In this manner both the *Mouẓawar* and *Asameẓwar Jumabundees* are written as occasion may require.

In some *Mouzas* the *Jumabundee* is defined under two heads, *ZUBTEE* and *URWAS*. The former comprizes *Radish, &c. Brinjals*, and the latter *Grains* of all sorts.

The *Jumabundee* of an entire *Parguna* of either harvests is drawn out agreeably to Form No. 6,—and No. 7 is a Form of the *Jumabundee* of both the harvests, *Khureef* and *Rubee*. No. 8 shews the value and rate of each sort of grain separately.

Agreeably to Form No. 8, every *Teerij Jumabundee* is drawn, where a definition of the different value and rates of grain is required.

On the refusal of a *Zameendar* to engage for his estate on a plea of the scantiness of the harvest or over-assessment, it becomes necessary to have the extent of the cultivation measured, and from the *Moontukhub* drawn from such measurement, a *Jumabundee* is easily formed, and shewn to the *Zameendar*, with a view to convince him of the actual produce of the estate; and then if possible, the Settlement is concluded with him; but should he still decline, under a further plea of the contumacy of Ryots, the *Mootwaddees* of the *Sirkar*, (Officers of Government) in such case, are directed to collect the revenue from each *Asamee* separately, according to the, *Khatabundee*.—This mode of collection is called *Kham* or *Khas Tulseel*. (But

But should the Government feel averse to proceed to the measure of *Kham Tuhseel*, from an apprehension that, in ascertaining the produce of the fields by measurement, a glaring deficiency might accrue in the required *Jama*, and the *Zameendar* also on the other hand, manifest a reluctance to the measure, from a consideration that it would expose the assets of his estate, the adoption of the following mode is esteemed very expedient:—In such case, a *Jumabundee* is formed with the mutual concurrence of the officers of Government and the *Zameendar* on a theoretical system, which is done by a *Shōddkar* (or cursory survey) taken by the *Meeirdahs*, (a mode followed by them to ascertain the quantity and produce of the cultivation by *Nuzzundaz*, (cursory survey,) with the help of this, together with the *Wasil* (1) *Baqee* and (2) *Muxazinas* of former years, and the *Dulol* given in by the *Qanoongah* (the *Dualimphes* a statement of the estimated value of the produce,) the *Jumabundee* (3) is determined, and a settlement concluded, being a plan, almost invariably acceded to by the *Zameendar*—The Revenue is payable by *Qists* or instalments—Having arranged these points the necessary *Putta*, on the part of the Government, and *Quboolcut*, on that of the *Zameendar*, are executed. Forms of these Documents will appear in the 4th Chapter of this Book.

A Settlement of the above nature is made for one, two, or as far as ten years.

During the progress of the Settlement, the villages thus settled are carefully recorded in a paper, called *Seeaha Tushkhees*, as per Form No. 1. The *Seeaha Tushkhees* is continued daily until the completion of the Settlement of the entire *Pargana*, when a grand total is made; shew-

ing the entire *Juma* of the *Purguna*, as well as the increase or decrease it may bear to that of the past year:

If the Settlement is required to be concluded for several years, the *Secaha Tush-khees* may be drawn either agreeably to Form No. 10, or No. 11.

In forming a Settlement of a *Purguna* great abuses are known to be practised by the *Amil* and the *Umla*, in collusion with the *Zumeendars*. Under-assessment is the result of *Nuzranas* (Bribes) which the *Zumeendars* generally give to the *Amil* and the *Umla*, whose probity is not always such as to withstand the temptation: Hence arises defalcation in the revenue demandable by Government. To remedy an evil so detrimental to the State, the *Nazim-i-kool* (or the Chief officer of the Revenue) personally forms the Settlement himself in the following manner.

The *Zumeendars* of each individual village are summoned to attend the *Kuchehree* (office) of the *Nazim*, whereupon the *Qanoongoes* of the *Purguna* are required to submit their *Duhsala Muwazina* papers, of which an abstract is taken at the office.—At the same time estimates of the *Umsabundee* are given in respectively by the *Amil* of the *Purguna*, the *Meerads*, and other *Hagifkars*, or competent persons. Upon a careful examination of all these papers, the *Nazim* fixes the *Juma* according to his own judgment, having first visited the *Purgunas* in person.

The above are the principal points closely attended to by the *Amil*, although much depends upon his acquaintance with the Revenue management.

nagement of the Country, and its local particulars, as well as exertions in considering other minor matters that cannot be well explained in writing, but which are developed during the progress of the Settlement."

Another method of a Settlement is by *KUNKOOT*, which is to ascertain the average value of the produce of each individual field, and then to apportion the revenue. It is conducted in the following manner.

Each individual field is measured, and the quantity of its produce ascertained either by *Nuzriidax* (cursory survey,) or by cutting the crops of a *Bisra* from three different places, in order that a fair average of the quantity may be assumed

The crops thus mowed are thrashed and winnowed, and the grain is weighed,

The quantity produced therefrom leads to an average calculation of the produce of the entire field, when the revenue is taken either in kind or money according to agreement.

A *Kunkoot Bundobust* is always pregnant with a great deal of trouble both in the measurement of the fields and in the ascertainment of the quantity of the grain, as well as in preventing afterwards the cultivators from stealing the corn.—The *Mhusreh*, *Khoonful hub*, and *Jumabundee* of a *Kunkoot* Settlement are drawn agreeably to Forms No 12, 13 & 14.

In some instances the value of somewhat better than half the produce is taken by the *Surkar* or Government.—The surplus of the moiety, is for wastage in weighing; and in others, *Ubzab* Taxes are also included in the *Jumabundee*—Vegetables also sometimes form a part of the revenue at a certain rate per *beegah*.—The *Jumabundee* on such occasions of a *Kunkoot* Settlement is drawn either *Asameetwar* or *Muozawar* as may be desired, agreeably to Form No 15.

Another

Another mode of Settlement is called *Bhoolée*, or *Butée*, which is to take a certain portion of grain as the revenue of Government.—It is managed thus: when the harvest is ripe, the fields are measured, a *Khusrch*, a *Móontukhubi* mil, a *Khalabundee* are prepared, after which the fields are watched, and when the crops are quite ripe, the cultivators are ordered to cut and to place them in stacks.—Afterwards they are thrashed, winnowed and divided between the Government and the *Asamees*.—The accounts of the *Butée* are drawn according to Form No. 16; but should the Government wish to receive only one moiety of the produce, the columns of surplus weight and account, expenses may be left out, or not.
To avoid the trouble and vexation of constant weighing, the produce of one field only can be weighed, and the rest estimated accordingly: If it should be deemed advisable, to take from the Ryots money in lieu of grain, at the market price, or to sell to them the Government portion of the Grain, in such case the *Jumabundee* is prepared either *Muozawar* or *Asameewar*, agreeably to *Kunkool Jumabundee*.

Butées or *Bhoolées* are of different kinds, one is called *Khet Butée*, which is to take a share of the green field while unripe.

Another is termed *Lánk*, or *Rojh Butée*, which is to make the necessary divisions of the stacks of the mowed crops.

A third is denominated *Huzum-i-Butée*: this mode of distribution is already explained in the *Butée* Statement.

After the transmission of the *Jumabundee* account (be it of any description) with its relative papers to the *Sudur Kuchelree*, should representations be made by *Asamees* claiming remissions for heavy injuries.

As connected with the subject of this Chapter, I insert the following passage from the Aeen Ukhwee, relating to the conduct of the Amil (Collector of Revenue) in regard to the different modes of collections, whether Nugdee or Butaee

The Amilguzar, (or Collector of the Revenue)

He must consider himself the immediate friend of the husbandman, be diligent in business, and a strict observer of truth, being the representative of the chief Magistrate. He must transact his business in a place where every one may find easy access, without requiring any mediator. The crafty and disobedient he shall strive to reform by reprehension, and if that produce not the desired effect, he shall inflict other punishment. Let him not be discouraged at the lands having fallen waste, but exert himself to bring them back again into cultivation. He shall not be satisfied with receiving pecuniary fines in expiation for murders, and other capital offences. His conduct must be such, as to give no cause for complaint. He must assist the needy husbandman with loans of money, and receive payment at distant and convenient periods. When any village is cultivated to the highest degree of perfection, by the skillful management of the chief thereof, there shall be bestowed upon him half a biswah out of every beegah of land, or some other reward proportionate to his merit. Let him endeavour to ascertain the quantity of land in cultivation, and make trial of different portions, in order to gain a competent knowledge of its various properties,

for

for there is a great difference in the value of land; and some soils are only capable of being cultivated for particular purposes. Let him learn the character of every husbandman, and be the immediate protector of that class of our subjects. He shall acquaint himself with, and maturely consider, the conduct of former Amils; and if they appear to have been guilty of inconsiderateness or dishonesty towards the husbandman, he must strive to remedy the evils they may have occasioned. Let him endeavour to bring the waste lands into cultivation; and be careful that the arable lands are not neglected. Let him promote the cultivation of such articles as will produce general profit and utility; with a view to which, he may allow some remission from the general rate of collection. If an husbandman cultivates a less quantity of land than he is engaged for; but produces a good excuse for so doing, let it be accepted. If an husbandman is able to cultivate more Banjar land than may happen to be in his own particular village, he shall be allowed land in some other place. Let him use the utmost circumspection and impartiality in measuring the lands. He shall annually assist the husbandman with loans of money. Let him see that his demands do not exceed his agreements. If in the same place some want to engage by measurement and others desire to pay their proportion of the revenues from an estimate of the crops, such contrary proposals shall not be accepted. As soon as the agreements are concluded and executed, let them be sent to the presence. Let him not be covetous of receiving money only, but likewise take grain. The manner of receiving grain is after four ways: First, *Kunkoot*, *Kim* in the Hindoos language, signifies grain; and the meaning of *Koot* is conjecture, or estimate. The way is this; the land is measured with the crops standing, and which are estimated by inspection. Those who are con-

versant in the business say, that the calculation can be made with the greatest exactness. If any doubt arise, they weigh the produce of a given quantity of land consisting of equal proportions of good, middling, and bad, and form a comparative estimate therefrom. Second, *Butthey*,* and which is also called *Bharcley*, is after the following manner: They reap the harvest, and, collecting the grain into barns, there divide it according to agreement. But both these methods are liable to imposition if the crops are not carefully watched. Third, *Kheyt Butthey*,* when they divide the field, as it is sown. Fourth, *Langt Butthey** they form the grain into heaps, of which they make a division. Whenever it will not be oppressive to the subject, let the value of the grain be taken in ready money at the market price.

"If an husbandman sows his land with the best kinds of grain, let there be remitted the first year a fourth part of the rate for Pooley land. If upon making the measurement, the kinds of grain appear to be better, although the quantity of land be less than was agreed for, so that the difference causes no deficiency in the revenues, the *Aumil* shall not express any displeasure thereat, and in every instance he must endeavour to act to the satisfaction of the husbandman. Let him not entrust the principal men of the village with making the estimates of *Kunkoot*; for such a measure, by giving room for oppression would create disgust, and consequently occasion indolence and neglect. But on the contrary let him transact his business with each husbandman separately, and see that the re-venues are demanded and received with affability and complacency.

He

* This word would be more proper if written thus, *Buttace*

† More properly *Langt* — TRANSLATOR

He must take securities for the conduct of the land measurers, weighmen, and other officers in this department.

Extra Daily Allowance whilst employed in making Measurements.

	Flour.	Oil.	Rice.	For Potherbs.
OFFICERS.	Seer.	Seer.	Seer.	Dams.
Tupukchy	5	1	7	4
Measurer of land	4	1	1	4

4 Tannahdars	8	1		5
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And besides the above he shall pay them their monthly salaries.

They shall fix a mark upon the land they have measured.

The *Aumil* shall take a written obligation from the principal inhabitants to discover any difference that may happen in the crops. If at the time of making the measurement, he meets with a parcel of bad land, he shall immediately make an estimate of the quantity, and quality, and give the paper to the husbandman, by way of certificate. If such discovery be made after gathering the harvest, he shall collect information from the neighbours of that place, as well as from the *Putwaree's* accounts, and allow what may appear to be the medium.

The *Mohurur* and the *Putwary* shall keep their respective accounts of the produce of the soil, in the same manner as the *Karkun*. When the *Aumil* has compared these accounts together, he shall put his seal to them, and give the *Karkun*, *Mohurur*, and *Putwary* copies of their respective papers. When the accounts of the crops of a village are completed, they shall be subjoined to the *Moontjee* (or account of assets) and

* This I believe is called by the author of the *Deewan* *Pusund the Moontkash*.

and again, authenticated by the *Karkun* and *Putwary*. This paper ought to be sent to the presence weekly, and must on no account be delayed beyond a fortnight. If after sending the *Nerekh* (estimate of assets of revenue) any calamity befalls the crops, the *Aumil* shall immediately investigate the circumstances, make an exact calculation of the loss, and transmit the same to the presence, in order that it may either be approved of, or an *Aumeen* sent to make farther enquiry. Let him collect the revenues with kindness; and never make any demands before they become due. He shall commence the collections of the spring harvest from the *Hooly*. This is an Hindoo festival which falls but differently between the time of the sun's arriving at the end of Aquarius, to the fifteenth of Pisces. The autumn harvest, he shall begin to collect from the *Dessherch*, which is another Hindoo festival, that also happens differently, from the beginning of Virgo to the commencement of Libra. Let him be careful that the treasurers do not require any particular species of coin, but that whenever there be any deficiency in fineness or weight, the exact deficiency be taken, and an account thereof given in writing. Let him agree with the husbandman to bring his rents himself at stated periods, that there may be no plea for employing intermediate mercenaries. Whenever there is a plentiful harvest, let him collect the full amount of revenue, and not leave any balances to be realized from future crops. If any one does not cultivate *Kherjee* land, but keeps it for pasturage, let there be taken yearly, from a buffalo 5 Dams, and from an ox 3 Dams, but calves shall be permitted to graze without paying any duty. For every plough there shall be allowed four oxen, two cows, and one buffalo; from whom likewise no duty shall be taken for pasturage.

He shall himself keep an exact account of whatever is paid into the treasury; and having compared it with the journal of the *Karkun*, cause it to be authenticated by the treasurer. Having fastened and sealed up the money bags, let them be deposited in a safe place, on the door of which there shall be several locks, of different constructions; he shall keep one of the keys himself, and the others are to be in the charge of the officers of the treasury. At the end of every month, he shall take from the *Tepukchy*, an account of receipts and disbursements, and send it to the presence. Whenever two lacks of Dams are collected together, they are to be sent to the principal treasury, under charge of a trusty person. Let him give directions to the *Putwary* of every villago, that whenever there be any balance in favor of the subject, he be furnished with a memorandum specifying the particulars thereof; and he shall also be directed to draw out an exact account of the balances due to Government, with the names of the persons indebted, which shall be signed by the principal part of them. Let the balances be collected without oppression from the next harvest. He shall attentively examine the grants of Seyurghal; and taking copies thereof send them to the registry to be compared. Let him carefully scrutinize the *Chucknameh*, and resume the share of the defunct, the absented, and those who are removed from offices. Let him be cautious that resumed lands are not suffered to remain uncultivated. He shall mind to take proper care of the effects of absentees, and of those who die without heirs, and represent the circumstances to the presence. Let him see that no *Jezeveh** be collected, and that whatever

Let him see that no *Jezeveh** be collected, and that whatever

* Capitation tax taken from the Hindoos. — TRANSLATOR.

taxes former monarchs thought proper to remit, do continue to be excused. The charges attending travelling, feasting, or mourning shall not furnish pretences for exactions: neither is he permitted to receive Saluances of any kind. The *Mokuddem* and *Pulxary* whenever they came with treasure, or to the courts of justice, used to present a Salamy of a Dam each, which custom is ordered to be discontinued. Also *Bukully*, *Meer Belay*, *Rahdary* duties upon the blankets, wool, leather and ghee, and various other vexatious taxes, which the avarice of men who feared not God, had introduced to the oppression of mankind, he shall by no means suffer to be exacted. He shall appoint one who is perfectly acquainted with the districts under his charge, to reside at the presence, for giving the most minute information that may be required. He shall make a monthly report to the presence of the condition of the subjects, *Jageerdars*, neighbours, and rebels, together with the market prices of goods, the rent of houses and shops, the state of Dervishes, and artificers, and every other remarkable occurrence.

If there be not any *Cootnal* within his district, the *Ammil* shall execute that office in the manner prescribed by the regulations for that department.

Vide Aeen Ul buree, Page 377, Part III. Vol. I Calcutta Edition, 4to.

TRANSLATOR

APPENDIX
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TO ,
CHAPTER 1st,
PART 1st. .

(FORM No. 1.)

KHUSREH, or Statement of Measurement of Land appertaining to
 Mouza A., Purguna B., Surkar C., in Sooba D., on account of the *Khar*-
reef Harvest of the *Fuske* year 1218, written in the presence of Hus-
 un-Ah-Khan Ameen, Ch, hotelal Mootsuddee, Lalmul Qanoongoe, and
 Choudhuree, Soobba Putuawee, Rutunlal and others, Zumeendars, and
 Lullo, Molloo, Tajkhan and Bazkhan, Meerdehs.

Month.	Date.	Days.	Names of Asamees	Quantity of Land measured					Quality and Quantity of the Harve st						
				Length	Breadth	Square Measurement.	Deduct loss for Injury sustained by the field's.	best Square Measurement.	Bhar.	Joer.	Bun.	Museena.			
				Gts	Gts	Bs	Bs	Bs	ls	Bs	ls	Bs			
Koonar	2d.	Monday	Nuraine	22	22	1.4	0	4	0	1.8	0	0	0	1.3	0
			Gobind	10	10	0.5	0	0	0	0.5	0	0	0	0.0	0
			Do.	20	20	1.0	0	0	0	1.0	0	1	0	0	0
			Ramchand	5	5	0.1	0	0	0	0.1	0	0.0	0.0	0	0

(FORM No 2.)

MOONTUKHUB or Abstract Statement of the Measurement of land in *Mouza A*, *Pargana B*, *Sarkar C*, of *Sooba D*, on account of the *Khureef* Harvest of the *Fuslee* year 1213, agreeably to the KHUSREH.

Page of the Khureh	Quality and Quantity of the Harvest measured														
	Joar			Byra			Bun			Musena			Total Ruqba		
	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs
1st	4	0	0	2	0	0	3	0	0	6	0	0	15	0	0
2d	10	0	0	12	0	0	11	0	0	9	0	0	42	0	0
3d	2	0	0	15	0	0	2	0	0	7	0	0	49	0	0
4th	7	0	0	20	0	0	17	0	0	18	0	0	62	0	0
Total	23	0	0	51	0	0	56	0	0	40	0	0	170	0	0

(FORM No. 8.)

K. HATABUNDLEE ASAMEEWAR, of the Measurement of
Mouza A., Purguna B., Sunkar C., in Soaba D., on account of the Khar-
reef Harvest of the Fulsee year 1213.

Names of Asamees	Month	Dates.	Quality and Quantity of the Harvest measured.														
			Bajra			Joar			Bun.			Musena			Total- Rough in cultivation		
			Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs	Bs
Nuralne	Koonr	1	0	0	0	0	0	0	1	5	0	0	0	0	1	5	0
		2	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0
		3	0	0	0	4	0	0	0	0	0	0	0	0	4	0	0
		4	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0
			2	0	0	4	0	0	1	5	0	0	0	0	11	5	0
Gobind	Do.	1	0	5	0	1	0	0	0	0	0	0	0	0	1	5	0
		5	0	0	0	0	0	0	4	0	0	0	0	0	4	0	0
		9	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0
			0	0	0	1	0	0	4	0	0	0	0	0	7	0	0
Ramchand	Do.	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
		15	5	15	0	1	0	0	1	17	0	2	0	0	10	12	0
			5	15	0	1	0	0	1	17	0	2	1	0	10	13	0
Hurnam	Do.	4	0	0	0	0	0	0	0	0	0	10	10	0	10	10	0
		11	0	0	0	0	0	0	9	0	0	18	0	0	27	0	0
		13	43	0	0	17	0	0	40	0	0	0	0	0	100	0	0
			43	0	0	17	0	0	49	0	0	28	10	0	157	10	0
Toal			51	0	0	22	0	0	50	0	0	40	0	0	0	170	0

(FORM No. 4.)

MOUZAWAR JUMABUNDEL agreeably to MOONTUKHUB
of Mouza A., Purgana B., Surkar C., in Sooba D., on account of the
Kkureef Harvest of the Fuslee year 1213.

Quality of the Harvest	Quantity of the Harvest.			Rate per Beegah.			Value or Juma		
	Bs	Bs	Bs	Rs	As	P	Rs	As	P
Jowar	29	0	0	2	0	0	40	0	0
Bajra	51	0	0	1	0	0	51	0	0
Bun	56	0	0	3	0	0	168	0	0
Muscena	40	0	0	0	8	0	20	0	0
Total	170	0	0	0	10	0	265	0	0

ASAMEWAR JUMABUNDEE agreeably to K. HATA BUNDEE of Mouza A. Purgina B. Surkar C., in
Sooba D., on account of the Khureef Harvest of the Fiske year 1213.

Names of Assess	Quality and Quantity of the Harvest.										Quality and value of the Harvest.										Total Value of Fund								
	Jozr.		Bajra		Maz		Mazra		Total Rughai in cultivation		Jozr.		Bajra		Mazra		Total Rughai in cultivation		Jozr.			Bajra		Mazra		Total Rughai in cultivation			
	Ri.		Ri.		Ri.		Ri.		Ri.		Ri.		Ri.		Ri.		Ri.		Ri.			Ri.		Ri.		Ri.		Ri.	
	Value	per Begah.	Value	per Begah.	Value	per Begah.	Value	per Begah.	Value	per Begah.	Value	per Begah.	Value	per Begah.	Value	per Begah.	Value	per Begah.	Value	per Begah.		Value	per Begah.	Value	per Begah.	Value	per Begah.	Value	per Begah.
Naraino ..	20	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16 15 0	
Gowind ...	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15 4 0	
Ramchand	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13 4 0	
Jurnam	45	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	233 6 0	
Total	27	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	582 0 0	

LEWAD REVENUE.																		Total Amount of the Khureef Jama bundree					
Nuzr			Nuzranch			Tasbeef			Mullaneh			Gao Churree			Ghee			Total					
Rs.	As.	Pz.	Rs.	As.	Pz.	Rs.	As.	Pz.	Rs.	As.	Pz.	Rs.	As.	Pz.	Rs.	As.	Pz.	Rs.	As.	Pz.	Rs.	As.	Pz.
12	0	0	15	0	0	12	0	0	1	8	0	8	0	0	23	4	0	£09	4	0			
12	0	0	50	0	0	12	0	0	4	0	0	12	0	0	100	0	0	600	0	0			
12	0	0	131	0	0	10	0	0	2	0	0	5	0	0	20	0	0	1,500	0	0			
6	0	0	199	0	0	14	0	0	7	6	0	5	4	0	321	0	0	2,109	4	0			

No. 7.)

count of the Khureef and Rubee Harvests for the Fustee year 1213.

UWAB REVENUE.																					
Khureef.										Rubee											
Nuzranah.	Tanleq.	Gao Churace.	Cheer.	Total.	Nuzr.	Tanleq.	Mulanch.	Hishorah.	Punhace.	Dustoor-i-Amilanch.	Dustoor-i-Deevante.	Bukhree.	Total.	Total of the Khureef and Rubee Uwabs.	Total of the Land and Uwab Revenue of the Khureef Harvest.	Total of the Land and Uwab Revenue of the Rubee Harvest.	Grand Total of the Gross Revenue.				
Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.	Rs. As.				
015 0	2 0	3 8	0 4	24 4	2 0	4 0	3 0	1 0	0 8	2 0	12 0	1 0	48 8	27 12	300 4	353 8	667 12				
015 0	3 0	15 0	1 0	21 4	2 0	5 0	4 0	1 0	1 0	40 0	20 0	3 0	76 0	115 0	533 0	779 0	1,315 0				
023 0	6 0	0 0	2 0	35 0	2 0	8 0	6 0	2 0	2 0	50 0	15 0	4 0	92 0	134 0	1,045 0	1,490 0	2,534 0				
053 0	11 0	19 8	3 4	23 4	6 0	17 0	13 0	4 0	5 8	115 0	0 8	22 8	321 12	1,880 4	2,635 8	4,519 12					

(FORM

TÉERUJ JUMABUNDEE of Villages appertaining to *Pungupia* A.
Fuslee year 1213, shewing the Value and Rate per Beegah of each Soil

LAND REVENUE															
Quality and Quantity of the Harvest.															
Names of Moozas	Joar.						Bajra.						Quantity		
	Quantity			Rate per Beegah	Value			Quantity			Rate per Beegah	Value			
	Rs.	As.	P.		Rs.	As.	P.	Rs.	As.	P.		Rs.		As.	P.
Imudpore.....	50	0	0	1	0	0	40	0	0	1	0	55	0	65	0
Bulk bundee.....	75	0	0	1	0	75	0	0	0	12	60	0	200	0	
Total.....	125	0	0			125	0	135	0			115	0	29	0

(FORM No 9)

SLEAHA TUSHKHEES or Settlement Account of Villages appertaining to Purgana A, Surkar B, in Spoba C, of the Tuslee year 1213.

Month	Date	Days	Moozas	Names of Malgoozars	Juma of the last Year's Juma	Increase on the past Year's Juma	Decrease on the past Year's Juma	Juma of the present year
					Rs. As.	Rs. As.	Rs. As.	Rs. As.
Juma dee ool wul	1st	Friday	Ramnugur	Asarwa	2,500 0	500 0	0-0	3,000 0
			Sooltanpore	Ramasthr	4,000 0	0 0	0 0	4,000 0
			Goolshur- poor	Lal Khan	4,000 0	0-0	1,000 0	5,000 0
			Chumun poor	Doust Khan	5,000 0	1,000 0	0 0	6,000 0
Total					15,500 0	1,500 0	1,000 0	16,000 0

(FORM No. 10.)

SEAHATUSHKHETS-I-PUNJSALEH, or a Quinquennial Settlement Account of Villages appertaining to *Pargulah A, Sarkar B, in Soahs C., commencing from the year 1213 to the end of 1217 Fuste.*

Months	Date	Day	Muon	Malgoe	Juma of the last Year.	Increase in the present Year on the last Year's Juma.	Decrease in the present Year on the last Year's Juma.	Juma of the present Settlement.	1213	1214	1215	1216	1217.	Total
					Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Juma	15th	Satur	Hun	Bisun	900.	100.	0.	1,000.	1,100.	1,200.	1,300.	1,400.	1,500.	6,000.
15th	Satur	day	want											
15th	Satur	day	plote											
15th	Satur	day	Omne	Ran-	2,100.	0	100.	2,000.	2,030.	2,100.	2,200.	2,300.	2,400.	10,850.
15th	Satur	day	dee-	ough										
15th	Satur	day	pure											
Total					3,000.	100.	100.	3,000.	3,150.	3,300.	3,500.	3,700.	3,900.	16,850.

(FORM No 11.)

SEAHAT-TUSHKHEES; BUNDOBUSTI-PUNJSALPH, of Settlement Account for
five years of Minoris appertaining to *Pargana A, Surdar B, in Sooba C, from the con-*
inment of 1213 to the end of 1217 Fuzlee

	Average Jama for one year taken from the Jumabun deed for the last ten years	Jama of 1213 to 1217 agregably from the Wassulkar or Baqee Jama	Gross Jama of 1213 agregably from the Wassulkar or Baqee Jama	Jama of the Settlement				
				1213	1214	1215	1216	1217 Total
Mubzas								
Malgozars								
	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Akburpore	1,000	1,100	1,300	1,000	1,050	1,100	1,150	5,005
Babarpore	2,000	1,800	1,800	1,500	1,100	1,100	1,800	8,500
Total	3,000	2,900	3,100	2,500	2,650	2,800	2,950	13,505

(18M)

MOONTUKHUB KUNKOOT ASAMEFWAR of Muzza A,
Fuslee year 1210—taken from the KHUSRIH.

Date	Names of Asamees	Quantity of land measured	Quality and Quantity of the Harvest measured					Total of land measured of each Asamee
			Jor,	Dajra	Dan	Museena	Total	
		—Br	M	M	M	M	M	Br.
Shur al	1 Ramkisen....	4	0	0	0	40	40	
	5 Do	0	60	0	0	0	60	
	6 Do	8	0	80	0	0	80	
	11 Do	10	0	0	100	0	100	
	1 Hurkisen...	1	10	0	0	0	10	29
	6 Do	2	0	20	0	0	20	
	7 Do	3	0	0	30	0	30	
	14 Do	6	0	0	0	60	60	

13.)

Guna B., Surkar C., in Sazba D., of the Khureef Harvest of the

Total of the Measured Harvest.				Remarks.
Bajra.	Bun	Maseena.	Total.	
M.	M.	M.	M.	
80	100	40	220	
20	20	30	70	

(FOR)

KUNKOOT JUMABUNDEL ASAMEEWAR of Muoza A

Names of Assamees.	Quality, Quantity and Value									
	Jorr.					Bijra.				
	Gross Quantity.	Share of the Assamee.	Share of Government	Rate per Rupee	Value of Government share	Gross Quantity.	Share of the Assamee.	Share of Government.	Rate per Rupee.	Value of Government share
	M.	M.	M.	M.	Rs As	M.	M.	M.	M.	R A P.
Ramkishen	60	30	30	2	15	80	40	40	3	15 5 4
Hurkishen	10	5	5	2	2 8	20	10	10	3	3 5
Total.....	70	35	35		17 8	100	50	50		16 10 4

14.)

rguna B., Surkar C., in Sooba D., of the Khareef Harvest of 1218 Fustee.

e Harvest.

e Harvest.													
Bun.					Musseena.					Total Gross Quantity of the different Harvests.	Total of the Share of Asamee.	Total of the Govt. Share.	Total Value of the Share of Govt.
Gross Quantity.	Share of the Asamee.	Share of Government.	Rate per Rupee	Value of Govt. Share.	Gross Quantity.	Share of the Asamee.	Share of Government.	Rate per Rupee	Value of Govt. Share.	Total Gross Quantity of the different Harvests.	Total of the Share of Asamee.	Total of the Govt. Share.	Total Value of the Share of Govt.
M.	M.	M.	Rs. As.	M.	M.	M.	M.	M.	Rs.	M.	M.	M.	Rs. As.
00	50	50	4	12 8	40	20	20	5	4	230	140	140	44 13
50	15	15	4	3 15	60	30	30	5	6	120	60	60	16 2
0	63	63	0	16 4	100	20	20	0	10	400	200	200	62 6

(FORM

KUNKOOT JUMABUNDEE MUOZAWAR of Land and Ulrab Revenue Appertaining

LAND

NJKARFF

FERTIL OR VEGETABLES &c

BYCUN

MOLFE

JOAR

Quantity

Rate per Ber

Value

Quantity

Rate per Ber

Value

Total Quantity

Total Value

Quantity

Product

Share of the Assnee

Share of the Government

Government
Share
account
Wastage &c

Rate per Mun

Amount

Total of the Share of Government

Rate per Rupee

Bt

Rs

Rs

Bt

Rs

Rs

Bt

Rs

Bt

Bt

M

M

M

M

M

M

Akburpoor

125 0

3 0

375 0

50 0

2 0

100 0

175 0

4 0 0

10 0

100 0

50 0

50 0

0 5

6 10

56 10

12 0

(FORM No. 16.)

BHAOLEE or BUTAEE of *Muoza-A, Pargūā B, Sūrlar-C*, in *Sōlā D*, on account of the *Khuref* Harvest of 1213 Fuslee, executed in the presence of *Chinturmul Aneen, Tejrae Mootsūddee, Chintursya Qarongo, Sumbhoonath Zameendar, and Lulloo H'eighnan.*

Names of Assessees	Quantity of the Harvest	Num- ber of Stacks or Mows	Quan- tity of Coin in each Stack	Total	Add- ition in Weigh- ing	Gross Total	Share of Gov- ernment	Add to the Share of Gov- ernment the Established Custom.		Total Share of Govern- ment	Remarks
								Rate per Mun.	Total		
Girdhar.	Jote.	5	3	15	2	17	8.20	5	1 2 8	9.22.8	M.
	Bajra	4	1	16	2	18	9	5	1 5	10. 5	M.
Mohan.	Musta.	8	3	16	3	19	9	2 1/2	1 3/4	10. 5	M.
	Mothe.	12	3	36	4	40	20	5	2 3/4	22.20	M.

CHAPTER 1st.

PART 2d.

On Arithmetic, and the mode of writing Accounts.

ALTHOUGH this difficult science is to be attained only by unremitted application and attention to books written on the subject, such as *Nilutec's Works*, *Budayool Fumoon*, &c. &c., I yet proceed to describe such of its branches as immediately relate to the management of the Revenue accounts.

After the completion of all proceedings in regard to the *Jumabiodee*, the next course to be pursued is the collection of the revenue agreeably to *Qists* or Instalments; and the formation of the accounts of Receipts and Disbursements: but before I detail the Forms of these Accounts, it will be necessary to make some preliminary remarks.

It is a custom of old to distinguish the days of the week by certain Signs (vide Form No. 17): next, in order to write the daily Receipts, each page is divided into four equal *Durjas*, or parts, which, if counted from the right hand side, the first is called *Husho*, the third *Bárit* and the fourth *Iráda*—the second has no name, being a space left blank for decoration merely (vide Form No. 18).

After this Form the daily receipt of Revenue is entered, and is called *Chit,ha* and *Seahá*; the next Account is termed *Ufzoon-i-Seeshá-jat*, or a statement of *Seahás* of many days, shewing the detail and the total amount of the Receipts of as many days as the statement may be

prepared for.—From the daily *Seahá* an Account called *Rozenamech* is drawn, exhibiting the total of daily Receipts and the detail of Disbursements, striking a Balance at the bottom.—From *Rozenamechs* of many days an Account called *Wazkham* is made, exhibiting the Total of Daily Receipts and Disbursements. From this a Monthly Account Current termed *Ursuteh** is prepared, and at the end of either 6 months, or a year, an Account is formed from the *Ursuteh* denominated *Juma Khurch*.

The *Chit,ha* and *Seahá* are drawn agreeably to Forms Nos. 19 and 20. A comparison of the two will however show that, although both the accounts are of the daily receipts of Revenue, yet the following difference is to be found in them.

The *Chit,ha* exhibits the Gross Receipt under the head of *Irāda*, where the usual discount of Exchange on Rupees of sorts is made, and the Nett Balance brought down under the head of *Bāriz*.

The *Seahá*, after shewing the Gross Receipt, and the usual discount of Exchange on Rupees of sorts under the head of *Irāda*, exhibits the Balance under the head of *Husho*, instead of *Bāriz*, where another deduction is made on account of *Ubwab*, and the Nett Balance is brought down under the head of *Bāriz*.

If it be required to ascertain the collection of a week or so, a statement called *Ufzoon* or *K,huuonee* is drawn out from the *Seahás*, either agreeably to Date or *Mouza*, as per Forms Nos. 21 and 22, and No. 23 is a Form of *Wazkham*, or an Account of Receipts and Disbursements.

No. 24

* *Ursuteh* is also called sometimes *Juma Khurch*.

No. 24 is a Form of the *Ursuteh*,^{*} otherwise called *Juma Khurch*, being a Monthly Account of Receipts and Disbursements.

The Annual Account Current called *Juma Khurch* is drawn out on the same plan as the Monthly one, by inserting the total of each head (instead of the particulars) both on the Debit and Credit sides.

The several Columns † in which the items of the different heads are inserted have separate names, as follows.

Bhurbudun,
also called } This Column is the very last exhibiting the General
Pesh.... } Total.

Zila..... This is the second last Column.

Rukaneh..... The third last Column.

Neem Rukaneh.. The fourth last Column.

Goonjan..... The fifth last Column.

ALL

* In translating the *Ursuteh* I have adhered to the English plan of writing Accounts, as the Persian invariably exhibits, first, the Total, and then the particulars, which way of writing I followed up in all other Accounts preceding the *Ursuteh*, but as I found it was liable to great confusion, I have contented myself by observing the English form, by writing first the Detail, and carrying the Total to the next Column, which makes no other difference from the original than a transposition of the Items of the Detail and the Total, and as this mode of writing will be more intelligible, I shall continue the plan TRANSLATOR

† The following Table will afford an illustration of the Columns.

	Goonjan	Neem Rukaneh.	Rukaneh	Zila	Bhur- budun.
LAND REVENUE	" " "	" " "	" " "	200 " "	" " "
SAYER REVENUE, Abtree	" " "	" " "	20 " "	" " "	" " "
Drugs	" " "	" " "	10 " "	30 " "	" " "
MISCELLANEOUS, Stamp duty	" " "	" " "	20 " "	" " "	" " "
Nazraneh	" " "	" " "	" " "	" " "	" " "
Nazr	" " "	4 " "	" " "	" " "	" " "
Bhent	" " "	2 " "	6 " "	" " "	" " "
Office Charges	" " "	" " "	" " "	" " "	" " "
Stationery	" " "	5 " "	" " "	" " "	" " "
Furniture 1 Table	3 " "	" " "	" " "	" " "	" " "
1 Chair	" " "	5 " "	10 " "	16 " "	360 " "

All entries subordinate to *Goolan* have no names

At the conclusion of each *Tusul* or Harvest, the Accounts with the *Zameendars* are brought to a close, and are drawn out agreeably to Form No 25, called *Hisab Furd*, and that for both the Harvests is denominated *Juma Wasil Baqee*, and is drawn as per Form No 26.

If the collections are made monthly, agreeably to settled *Qists* or Instalments, the Accounts are drawn out on a different plan called *Tonjeeh*, as per Form No 27 In this case there is no use for either the *Hisab Furd* or *Juma Wasil Baqee*,

At the end of the Year a comprehensive Account is prepared, denominated *Juma Khursh* and *Juma Wasil Baqee*, exhibiting at once the Revenue demandable, Collections made on that account, Disbursements therefrom, and the remaining Balance, whether Cash in the Treasury or due from the *Pargana*, as explained in Form No 28

In instances where the *Malgoozars* are not regular in the payment of their *Qists* (Instalments,) but fall in arrears in the discharge of the revenue due to Government, they are served upon with *Dustuks* (Summons for demand of Cash) either through a *Peada* (Peon) or a *Sutrar* (Horseman); the first is authorized to receive from the defaulting *Malgoozar* two anas a day, and the last one rupee and four anas The *Dustuks* continue until the payment of the *Sutrar's* due

The *Dustuks* are issued either through *Moolazum* (established servant,) or through *Muzhooree* (servant hired for the purpose,) *Peadas* or *Suwas*,

The Accounts drawn of the Issue and Return of *Dustuks*, are called *Sceehâ-i-Amdunee-i-Itlâg* as recommended in Forms Nos. 29 & 30. A monthly Abstract Account of the same is prepared agreeably to Form No. 31.

On the appointment of a new *Amil*, he calls upon the *Qanoongoes*, as guidanees for his conduct generally in the management of his office, for the two following Accounts.

Mirâzineh-i-Dehsâla and *Yâd dâsh-i-Dustoor-ool-Umul*.

As these Accounts fully explain themselves in regard to their use and contents, I shall, without entering into any further remark, content myself by referring the Reader to Nos. 32 and 33. The former shews in abstract the *Mirâzineh Dehsâla* of the entire Pargana, but it is on the same plan that the *Mirâzineh* of every village is written.

A *Mirâzineh Chuosaleh* (Quarterly) is likewise drawn on a similar plan.

Thus I have shown most of the Accounts relating to Land Revenue, but as some insertions in them have a tendency towards the *Sayer* (or the Government Customs) and Pay Offices, I shall give a few Forms of Accounts appertaining to them.

Without therefore entering into any long and tedious detail, I shall take leave at once to mention, that the *Sayer* Revenue is derived by a certain duty levied by Government on all Goods of Merchandize passing from one part of the country to another, or selling on the spot

where they are produced, and is regulated agreeably to the established usage of the place, which the respectable inhabitants, persons in high employ, *Qanongoes* and *Butwals*, point out. Form No. 31 will shew how this duty is regulated and brought to account.

The *Ufzoon*, *Wazkham* and *Juma Khurch* of the *Sayer* collections are drawn out similarly to those of Land Revenue.

The following are the Forms of the Pay Office Accounts.

No. 35. Shews the number of *Suvars* and *Peadas* daily entertained, their names and Pay, respectively.

No. 36. Is a Monthly Pay Bill of *Suvars* and *Peadas*.

No. 37. A general Monthly Pay Bill of *Suvars* and *Peadas* both of such as are continued in the Service and such as are intermediately discharged.

No. 38. Is a Monthly Descriptive Roll of *Suvars* and *Peadas*.

[Here follows a system of Arithmetic which embraces the following Rules.

1) Addition.....Compound Addition.

2) Subtraction.....Compound Subtraction.

Multiplication.....Compound Multiplication.

Division.....Compound Division, and

The Method of measuring lands of different Forms.

As these Rules have been very imperfectly defined, and the English method of Arithmetic being so decidedly superior, I have thought it an useless task to translate them, and have contented myself in merely adhering

to the Numeration Table as showing the number of places of Figures to which it extends (*Vide* No. 29.) TRANSLATOR.]

The following is the method of measuring lands of different Forms.

The contents of a square piece of land are ascertained by measuring its length and breadth, and multiplying them together.

The contents of a piece of land of a circular form, are acquired by measuring, first, its circumference, then the diameter is multiplied by the product of the circumference, and the whole divided by four.

Custom however has established a general rule to forego to the *Ryots* all measurements below half a Beegah, but all above it and lower than one Beegah is accounted for to Government as a full Beegah.

I shall close this Chapter by giving a Form of a general *Juma Wasil Bagee*, wherein not only the total quantity of land, both *Khiraj* (paying revenue) & *Lakhiraj* (rent-free) is inserted, but also such, as is occupied by Roads, Sites of Villages, Tanks, &c. together with the amount of Balances of former years, the *Juma* of the present year, collections on account of the entire Demand, and the remaining Balance, as exhibited in No. 40.

END OF THE 2D PART OF THE 1ST CHAPTER.

APPENDIX
TO
CHAPTER 1ST,
PART 2D.

FORM No. 17

SIGNS for Days.

_____ جمع
This is meant for جمع or Friday, also called
سدس (6 or Sixth) being the 6th day of the Week.

يوم

_____ سبت
This is meant for سبت by which Saturday
is intended. I believe it is taken from the word
سبع or the 7th day,

يوم

_____ احد
This is meant for احد (one or first) by which
Sunday is meant, and reckoned the 1st day of
the Week,

يوم

_____ اثنى
This is meant for اثنى (2 or Second) by
which Monday is intended, or 2d day of the
Week,

يوم

_____ ثلث
This is meant for ثلث (3 or third) by which
Tuesday is meant, or the 3d day of the Week.

يوم

_____ ربيع
This is meant for ربيع (4 or fourth) by which
Wednesday is meant, or the 4th day of the Week.

يوم

_____ خمس
This is meant for خمس (5 or fifth) intended
for Thursday, or the fifth day of the Week.

يوم

[FORM No. 18:]

SEAHAS of RECEIPTS of *Moozas* appertaining to

Pargana A. of Sarkar B. on account of the

Khureef Harvest of 1213 Julee,

Jumadce-ooe-Sanee 16th, Juloos.

FRIDAY

15th.

(Durja 4th.)

(Durja 3rd.)

(Durja 2nd.)

(Durja 1st.)

Iradda.

Bâriz.

Husho.

Here is inserted first, the Gross Receipt, and then, the amount of discount on Rupees of sorts with its particulars, and the Balance is carried under the head of Husho.

The Balance of Iradda is brought forward under this head, when the amount of Ubwab with its particulars, are inserted, and the Nett Balance carried under the head of Bâriz.

Here at the bottom the Item of the Nett Balance is inserted.

[FORM No. 19 continued.]

RAMNUGUR, through Hurdas Zameendar

Rupees..... 100.0.0
Deduct Butta..... 1.3.6

10 Gwalier... } 0.10.0

Rs..... }

10 Bhurtpoor... 0.5.0

10 Burwur.... 0.2.6

10 Kats... 0.1.6

10 Dehlee.... 0.0.3

10 Furrookh... 0.0.3

ibid..... }

40 Hallee.... 0.0.0

Hallee Rs.... 98.12.6

KISHENPOOR, account Hurial Sahookar's Roogga

Hallee Rs.... 200.0.0

Hallee Rs.... 200.0.0

[N. B. The first Page of the Chūha, after writing the heading, date and day of the week, is left the evening, when the whole of the Receipts, of the entire day, is summed up in abstract therein. TRANS]

[FORM No. 20.]

SEAH of RECEIPTS of *Muzzas* appertaining to*Purgana A.*, in *Surkar B.*, on account of the*Khureef* Harvest of the *Fuslee* year 1218,*Jumadee-oss-sanee* 16th, *Juloos.*

FRIDAY

15th.

Papers.....	500	0	0
Deduct Latta.....	1	3	0

10 Gwather.....	}	0	10	0
Pa.....				

10 Fustpoor.....	0	2	0
------------------	---	---	---

10 Bawar.....	0	2	0
---------------	---	---	---

10 Khar.....	0	1	3
--------------	---	---	---

10 Dab.....	0	0	6
-------------	---	---	---

10 Fustelk.....	}	0	0	3
bed.....				

21 J. Latta.....	0	0	0
------------------	---	---	---

Brought.....	}	273	126
forward.....			
Deduct Ubwab.....	7	6	0

Surat i-Sikah.....	0	0
--------------------	---	---

Malkuch.....	1	8	0
--------------	---	---	---

Parkhara.....	2	4	0
---------------	---	---	---

Talkeeq.....	0	12	0
--------------	---	----	---

[FORM No. 21]

UTZOOH

SLAHAJAT of Muozas appertaining to Purguna A. in Sar-
 kar, B. on account of the Fustee year 1218,
 Jumadee-oos-sanee 16th, Juloos.

RECEIPTS

Asamee	Amount	Total of Gross & Nett Reve	Remaining Balance
FRI DAY } 15th } Dedi Batta 1 3 6		298 12 6	
10 G Rs 0 10 0 10 B Rs 0 5 0 10 N Rs 0 2 6	Acct Land } 291 4 6 Reve " Ubwab.. 7 8 0		
10 K Rs 0 1 3 10 D Rs 0 0 6 10 F Rs 0 0 3 240 H Rs 0 0 0	Suruf : } 3 0 0 Sikkeh } Multaneh 1 8 0 Purk haee 2 4 0 Tualeeq 0 12 0	Gross Re- } ..400 0 0 cept Rs } Dedi Batta, Rs 1 13 6	
		10 G Rs 1 4 0 10 B Rs 0 5 0 10 N Rs 0 2 6 10 K Rs 0 1 3 10 D Rs 0 0 6 10 F Rs 0 0 3 330 H Rs 0 0 0	
SATURDAY } DAY 16th } ... 100 0 0 Rs Dedi Batta..... 0 10 0	..... 30 0 0	398 2 6	
10 Gr Rs 0 10 0 90 H. Rs. 0 0 0	Acct Land } 96 10 0 Reve Ubwab 12 0	Acct Land } 357 14 6 Reve " Ubwab. 10 4 0	
	Suruf : } 1 0 0 Sikkeh } Multaneh 0 8 0 Purk haee 0 12 0 Tualeeq 0 8 0	Suruf : } 1 0 0 Sikkeh } Multaneh 0 8 0 Purk haee 0 12 0 Tualeeq 0 8 0	

A B The fourth column here is left blank, &c. is intended for the insertion of the Balance that may be remaining
 do. TRANSLATOR.

[FORM No. 22.]

UFZOON.

SEHAJAT of Muozas appertaining to *Purgana*A., in *Sarkar B.*, on account of the *Fuslee* year1213, *Jumadee-oes-sanee* 16th, *Juloos.*

RAMNUGUR

Receipts.

ASAMEE.....	AMOUNT.....	TOTAL OF GROSS AND NETT BALANCE.	REMAINING BALANCE.
_____	_____	_____	_____

[FORM No. 23]

WAZKHAM, or account of Daily Receipts and Disbursements of *Pargana A.*, in *Surlar B.*, under the superintendence of *Mehr Ali Tuhseeldar*, from 1st to 7th *Shual* 1213 *Tuslee*.

RECEIPTS.		
Cash in the custody of <i>Sohunlal</i> Treasurer.....	4,118 7 9	
Balance of last month.....	100.	
Collections up to this date.....	4018 7	
Account Land Revenue agreeably to <i>Deans</i>	2,018. 7.	
1.....	215. 2 0	
2.....	120. 15. 0	
3.....	200. 0 0	
4.....	100. 5. 9	
5.....	303. 0. 0	
6.....	77 1. 0	
7.....	1000. 0 9	
Account Sewak or Miscellaneous.....	2,000. 0 0	
Styer and Customs.....	1000. 0. 0	
Itlaq. &c.....	1000. 0. 0	
DISBURSEMENTS.....	3,174. 0. 0	
REMITTANCES.....	3000. 0	
In specie to <i>Sudar Kuchelree</i> as follows.		
2d In charge of <i>Mohunlal Jumadar</i>	1000. 0	
6th Do <i>Sudarook, h.</i> Do.....	1000. 0	
Paid to the <i>Tunkhwarir</i> or Military Establt. as per } order dated.....	1000 0	
4th <i>Pukun</i>	500. 0 0	
6th <i>Risala</i>	500. 0. 0	
Mitazonoon or Charges of the <i>Tuhseeldar</i>	174 0	
Moolasiman or Established Charges.....	155 0	
Amlkars or <i>Tuhseeldar</i> , <i>Mootsuddhes</i> , &c. 114. 0. 0		
<i>Tuhseeldar</i> (3d 56 Rs. 7th.) } 75 0. 0		
25 Rs.		
<i>Peshkar</i> , (1st 10 Rs. 6th. } 15 0 0		
5 Rs.)		
<i>Treasurer</i> (1st 8 Rs. 3d 2 } 11. 0 0		
Rs. 3d, 1 Re.).....		
SERUNDEE.....	44 0	
— <i>Jumadar</i> (3d. 5th. 5th. 5 Rs.) 16. 0. 0		
— Do (6th. 5 Rs. 7th 10 Rs.) 15 0. 0		
— <i>Risalehdar</i> of <i>Suwar</i> 3d. 8. 0 0		
<i>SHAGIR</i> <i>Pesh</i>	11. 0 0	
<i>Districe</i> (1st. 1 Re 2d 2 Rs. 3.		
<i>Lurrash</i> and others, 2d. 8.		
MEHAL KULCH.....	19 0	
Stationery (1st).....	5	
Repairs of <i>Kuchelree</i> (1st to 7th).....	12	
Oil (1st).....	2	
BALANCE of Cash in the Treasury.....	018 7. 0	

[FORM No. 24.]

URSUTEH, or Monthly Account of Receipts and Disbursements
of *Purgana A*, in *Surkar B*, under the superintendence of
Mehr Ali, Tuhseeldar, for the month of *Shuwal*
1913 *Tuslee*

RECEIPTS.

Balance of last Month		
Cash	800	
Nizdat or Inefficient.....	200	1,000

WOODSOL OOT TUSSEEL

LAND REVENUE

Collections account the past year....	200.
Ditto Ditto Present Qist.....	14,800

15000

Surplus Collections acct the next Qist	300.
--	------

15,300

MISCELLANEOUS

Suruf: Sikkeh.....	150.	
Muktana.....	75.	
Park haee	37 8	
Tusleeq.....	37 8	900.
		15,600

SEWAK OR MISCELLANEOUS

Sayer	3,000.
Idaq (or Collections account	
Tulubana)	225
Baghat	100.
Nuzrana	100
Jureemana.....	50
	3,475

ARKANJE AND MOOSEKTRAT

Shurab.....	600.
Three	100
Bung and Ganya.....	100.
	4475

Carried forward..... 20,075. 1,000.

Brought forward		170	17,278	22,877
SEI BUNDEE				
5 Suwars for the present Month	753			
Do 1st ... Do	57			
10 Do discharged	3718	50		
Shagird Peshka,				
6 Men	Do	18		443
			613	
MUHAL KHURCH				
KHURCH : DUKTUN.		150		
Stationery &c.	10			
Repairs of Kuchehree	5			
Fursh for Do	8			
Oil 30 Sers at 6 Sers per Rupee	5			
Khulluts to Zumendars (names)	20			
and places to be detailed }				
Construction of 2 jateebis for measurt.	8			
(All Chargeable allowances, and other contingent charges of the like nature, to come in under the Head of Muhal Khurch)				
ZEIL, OR PROFIT AND LOSS.		36	639	
Udrey Dastgurdan, or payment of loans				
Account Principal	500.			
Interest at 1 A. per Cent.	2 8.	502 8.		
Advance of Tugavee (detail to be entered) }		400 0.		
UMANGOT : TUKHWAH				
Paid Rumzance account his pay in Deposit for Jet, h. }		10. 0.		
TUHAZA				
Zealut to Raja Ramdeen as per Purwana dated		100 0		
DACHAT.				
Expences incurred on this account (detail to be inserted)		100 0	1,112. 8	
			19,653 8	
BALANCE.				
Cash in the Treasury		3,820. 8		
Indifferent, or Mizdat (detail to be inserted)		400 0		
		Rupées	4220	

FORM No 25.]
HISAB KURD of Muozas appertaining to Purguna

A., on account of the *Khureef* Harvest of the

Fuske year 1213

MUOZA RANNEGUR.

DEMAND

Former Balance account the Rubee Harvest of 1212..... 160

HAL or Juma of the present year..... 160

Land Revenue including Ubwab according to Qubooliat
of the entire year entered into by Ramchand
Moostajur 2,100.

Ded: to be realized account the
next Fuske..... 1,100..... 1000

Taqavee advances..... 200..... 1,300

RECEIPTS

Collect ons made from _____ to _____
1213 Fuske

Woosool..... 1,112

Ded: Batta on Rupees of sort..... 12 1,400

Minhaae & Sealia..... 400

Account Mal..... 500

Taqavee..... 200 } — 1,000

BALANCE due on such a date 300

For this Balance an Iqarnama has been executed, to be liquidated by instalments.
(N.B.—The different Instalments are put down)

[FORM No. 26.]

JUMA WASUL BAQEE of *Mouzas* Appendant to *Pargana A.* in *Surkar*
 B on account of the *Fuslee* year 1213.

MUOZA RAMNUGUR.

DEMANDS.

Balance on account of the past year, 100 0 0

Hal or Juma of the present year, 0 0 0

Land and Ubuab Revenue,

Khureef, 1,000 0 0

Rubee, 1,100 0 0

2,100 0 0

Tuqavee

Khureef, 200 0 0

Rubee, 50 0 0

250 0 0

2,350 0 0

2,450 0 0

WOOSOL or RECEIPTS

Khureef, 1,315 0 0

Deduct Butta, 12 0 0

1,303 0 0

Minhaee-i-Seaba, 103 0 0

Account Land Revenue, present year, 900 0 0

past year, 100 0 0

1,200 0 0

Tuqavee, 200 0 0

Rubee, 1,300 0 0

Deduct Butta, 500 0 0

1,250 0 0

Minhaee i-Seaba, 100 0 0

Account Mal (Land Revenue), 1,100 0 0

Tuqavee, 50 0 0

1,150 0 0

2,350 0 0

Gross Balance, 100 0 0

Deduct account Nankur-i-Moquddamee, 50 0 0

Do for Calamity of Season, 25 0 0

75 0 0

NETT BALANCE, 25 0 0

For the payment of the Balance *Igrarnama* has been taken.

[FORM No. 27.]

TUOZEL of Puga A. on account of the Qist of P'hagoon of 1212 Fustec.

PUGA	Mazas.	Malgozars	Surety	DEMANDS		Collections in P'hagoon.	Balance	Surplus collections account the next Qist	REMARKS.
				Balance of last Qist	Present Qist	Total			
EABAD	Rampore,	Hurchand,	Rangath Saloo,	100 0 0	500 0 0	600 0 0	500 0 0	0 0 0	Dustik of a Sub-war has been issued
	Golsbun-pore,	Gobind Ram,	Toothag Ram,	200 0 0	1,000 0 0	1,200 0 0	1,300 0 0	100 0 0	Promise of payment made in 7 days
Gobind-pore,	Shuejeoram,	Hurnath,		50 0 0	400 0 0	450 0 0	450 0 0	0 0 0	The Surplus will be accounted for in the next Qist.
	Nurampore,	Ranchand,	Hureeram,	400 0 0	2,000 0 0	2,400 0 0	1,400 0 0	0 0 0	Malgozar all scored Balance realizable by the sale of the Estate
Hureepore,	Onolat Ram,	Nuram Das,		500 0 0	1,000 0 0	1,500 0 0	500 0 0	0 0 0	Do. Do. Do.
	Total,			1,250 0 0	1,900 0 0	3,150 0 0	4,150 0 0	100 0 0	

(If the amount of Tugaree is required to be inserted, other columns for that purpose to be drawn)

O O W S O O [FORM No. 28]

YAD-DASHT of Juma Khurch and Juma Wusul Baqee of Purgund A, on
account of the Yustee year 1213.

BALANCE

Past year,

Former year, according to the Wusul Baqees,

Hal (or Demand account the present year)

LAND REVENUE

Settled Reveue,

Allowed Remission,

Gained Increase,

UBWAR REVENUE,

Sewae, or Miscellaneous

BUTUE ZADITA, &c.

Hoondaeawun,

Roogqawun,

Tualeeg,

Purkhaee,

Hisahanah,

Shehnugee.

Idlaq

Chuthawun 1 Imlak,

Amdunee 1 Bagh,

Diro Chuthee,

Chunda,

Rusudana,

Dirokah,

Oon,

Chursa,

Zubtee Muweshee,

Interest on Tuqavee,

Chank Nuweesee,

JUREEMANA, &c.

Bhent

To the Surkar,

To Ahikars,

Carried forward,

Brought

Brought forward,	14,600 0 0	100,000 0 0	120,500 0 0
Muafee i Tualeeg			
Qanoongoes and Mootsuddies of Hoozoor, 500 0 0	0		
Ditto, ditto, of Purganas, 500 0 0	1,600 0 0		
MOOJRAEE PURGUNA,			
Enam i Nankar,			
Qanoongoes,	500 0 0		
Mooquddumee, &c			
Mooquddumee,	200 0 0		
Enam,	200 0 0		
Chunda,	400 0 0		
Khyrat,	25 0 0		
" Newta,	30 0 0		
	45 0 0		
	1,000 0 0		
Muafee i Zala Zudgee,	2,000 0 0		
Nooqsan i Bhurut,	500 0 0		
Oozree,	500 0 0	49,000 0 0	119,000 0 0
BALANCE	0 0 0		
Agreeably to Wasul Biquee dde in the Purgana,	1,000 0 0		
Ditto, i Jarfa Kharch, Cash in the Treasury,	500 0 0		1,500 0 0
1 Collection made on account of stationing peons to guard the crops from being stolen			
2 Another name for Tul danel			
3 Something charged on the issue of authority for private transfers of land			
4 Revenue derived from the fruits of escheated gardens			
5 Another name for Bulki tee or something charged on issuing orders for reaping the crops			
6 Collections for charitable purposes			
7 Something collected on writing the word "Returned" on the return of Dustaks.			
8 Something collected on allowing the cutting of grass			
9 Collections on account of sheep wool			
10 Ditto, on hides			
11 Ditto on the sale of confiscated sheep			
12 Ditto, on account a wooden seal being engraved for stamping stacks of corn to prevent its misappropriation.			
13 Ditto, on account of proving the goodness of rupee on fire			
14 Money given to respectable Zameendars on occasions of marriage			

TRANSLATOR.

[FORMA

SEAHIA-I-ANDUNEE I ITLAQ for Tulubanih Collections of Muozas in Pur-

BURAMUD, OR ISSUES

Month	Date	Day	Names of Villages.	Names of Persons bearing the Dustuk.	Amount of Dustuk per Day	Number of Dustuk
Asarh,	15th,	Friday,	Ramnagar,	Jumal Khan Moolazim,	2 annas,	1
Ditto,	15th,	Ditto,	Sirsoul,	Hoosyn Khan Muskooree,	2 annas,	1
Ditto,	16th,	Saturday,	Rutanpoor,	Peerbukhsh Suwar Moolazim,	1 R 4 as	1

No. 29.]

guna A. Surkar B. on account of the *Khureef* Harvest of the *Fuslee* Year 1213.

DURAMUD, OR RETURN.

Villages.	Month.	Dustuk of what Date.	Names of Matgoosars.	Names of the persons bearing the Dustuk.	Number of Dustuks.	Number of Days.	Amount per Day.	Total Amount.	Amount paid to the person bearing the Dustuk.	Balance brought to Credit.	REMARKS.
Mohumudporc,	Asarh,	1st,	Kurumali,	Neamut Khan Moolazim,	1	150	2	1 14 0	0 0 0	1 14 0	
Ditto,	"	3d,	Teeka Singh,	Lal singh Suwar Moolazim,	1	131	11	16 4 0	0 0 0	16 4 0	
Bulhour,	"	6th,	Bhola Singh,	Ruheemoolah Muzkoree,	1	110	2	1 6 0	1 0 6	0 5 6	

[FORM No. 32.]

YAD DASHT-I-MUWAZINA-I-DEHSALD (or *Muwazina* of 10 years) of
Muozas appertaining to *Purgana A.*, of *Sarkar B.*

76 Mouzas	Uslee.... 70	Rugba	Ft for cultivation	440,000 0 0	455,000 0 0
	Dakhlee... 5		Unfit for Ditto ...	15,000 0 0	

DEDUCTION					
5 Ditto,	Uslee.... 4	Rugba	Ft for cultivation .	50,000 0 0	55,000 0 0
	Dakhlee... 1		Unfit for Ditto ...	5,000 0 0	

PARTICULARS OF THE DEDUCTION

2 Mouzas	Uslee	1	Jageer of Mohum-	22,000	0	0
	Dakhlee	1	mud Uh Khan,	11,000	0	0
	In the possession of Meer Ali, ..			11,000	0	0
	Given in charity, ..			11,000	0	0
	Transferred to Purgana B			14,000	0	0
				55,000	0	0

BALANCE

70 Mouzas ...	Uslee... 66	Rugba	Ft for cultivation	390,000 0 0	400,000 0 0
	Dakhlee... 4		Unfit for Ditto, ...	10,000 0 0	

ANNUAL AVERAGE JUMA,

Rupees

100,514 0 0

Juma of 1201	100,000 0 0
1202	100,100 0 0
1203	100,200 0 0
1204	100,300 0 0
1205	100,400 0 0
1206	100,500 0 0
1207	100,600 0 0
1208	100,700 0 0
1209	100,800 0 0
1210	100,900 0 0

[FORM No. 33.]

YAD DASHT-I-DUSTOOR-OO-UMUL of *Pargana A. Sunka* B. in
Sooba C.

<i>Fust, or Har-vest.</i>	<i>Produce</i>	<i>Quality of land.</i>	<i>Rate per Beggah</i>	<i>REMARKS</i>
KHUREEF	JOAR,	Gonrb,	2 0 0	* These are qualities of the harv
		Mendh or Har,	1 12 0	
		Pah,	1 8 0	
		Polach,	2 0 0	
		Bunjar,	1 0 0	
	BAJRA,	Oomra,	2 0 0	
		Surhete,	1 8 0	
		Bunjar,	1 0 0	
	BUN,	Gonrb,	4 0 0	
		Mendh,	3 8 0	
		Surhete,	3 8 0	
		Pah,	3 0 0	
	MUSEENA†,	Polach,	1 8 0	† Moong, Midash, &c.
		Pah,	1 0 0	
		Bunjar,	0 8 0	
	OORH,	Gonrb,	10 0 0	: Another name for Gonrb.
		Kuttara,	5 0 0	
		Pah,	4 0 0	
	MUFOOA,	Deh Khas†,	2 0 0	
		Pah,	1 8 0	
	KUNGNEE,	Deh Khas,	1 0 0	
		Pah,	0 12 0	

First or Harvest	Produce.	Quality of the land.	Rate per Peegah	REMARKS.
KHUREEF.	URWEE,	Deh Khas,	5 0 0	
		Pah,	4 0 0	
	SINGHARA.	Deh Khas,	4 0 0	
		Pah,	3 8 0	
	SHALEE OR DHAN, }	Deh Khas,	4 0 0	
		Pah,	3 8 0	
	TURKAREE*,	Deh Khas,	4 0 0	* or Vegetables, such as Brinjals, Kurela, Methce, &c
		Pah,	3 0 0	
		Bunjur,	2 0 0	
	MUKUREE, ..	Deh Khas,	2 0 0	
		Pah,	1 8 0	
	MOTHE, ..	Deh Khas,	1 0 0	
		Pah,	0 12 0	
		Bunjur,	0 8 0	
	TILL, ..	Deh Khas,	1 8 0	
		Pah,	1 0 0	
	NEEL, ..	1st year's Sowing,	2 0 0	
		2nd Ditto,	1 8 0	
		3d Ditto,	1 0 0	
SUN,	Deh Khas,	Deh Khas,	2 0 0	
		Pah,	1 8 0	
	CHUREE†, ..	Polach,	1 0 0	
		Bunjur,	0 8 0	† This is a name given to the Joar, Bajra, and Mukree fields, which are merely reared for fodder, yielding very little grain.

<i>Fusl, or Harvest.</i>	<i>Produce</i>	<i>Quality of the land.</i>	<i>Rate per Beegah</i>	<i>REMARKS.</i>
Khurree.	UMUL-I-BHAG-LEE,	.. | . . . .	.. ..	This is regulated by an equal division of corn between the Government and the Ryats the Government, however, takes a further share of five sers per <i>mun</i> for wastage in weighing
Khurree.	WHEAT, ..	Gonrh, ..	5 0 0	
		Har, ..	4 0 0	
		Pukka Wells, ..	5 0 0	
		Kucha Ditto, .	4 8 0	
	DO. WYRA, .	Gonrh, ..	4 0 0	
		Har, ..	3 0 0	
	JOO, ..	Gonrh, ..	5 0 0	
		Har, .	4 0 0	
		Pah, ..	3 8 0	
	CHUNA, ..	1st Sort,	2 8 0	
		2nd Ditto, ..	2 0 0	
		Buryar, ..	1 8 0	
	TOMAKOO, ..	1st Sort, .	5 0 0	
		2nd Ditto, .	4 0 0	
		Pah, .	3 8 0	
	GAJUR, .	1st Sort,	5 0 0	
		2nd Ditto, ..	4 0 0	
		Pah, .	3 8 0	
	UNWATUN, . } DHUNYA, . }	1st Sort, ..	5 0 0	
		2nd Ditto, ..	4 8 0	
		Pah, ..	4 0 0	

<i>Fust, or Harvest.</i>	<i>Produce.</i>	<i>Quality of the land.</i>	<i>Rate per Beegah</i>	<i>REMARKS.</i>
Rupee.	KHEERA, .. } KUKREE, .. }	Deh Khas, ..	2 8 0	
		Pah, ..	1 0 0	
		Har, ..	1 8 0	
	KHURBOOZEH,	Jumalee*, ..	2 8 0	* Quality of Fruit.
		Surdah*, ..	1 8 0	
		Duo Fuslee*, ..	1 0 0	
	CHYNA, ..	1st Sort, ..	3 0 0	
		2nd Ditto, ..	2 0 0	
	ROSES, ..	.. ..	5 0 0	
	PHALSA, ..	.. ..	4 0 0	A kind of small berry, of an acid and sweet taste.
	KHAREE LONE, .. }	.. ..	.. ..	Halves between the Government and the Rynt, after crediting the expense of manufacture
		.. ..	.. ..	Vide remark on Bhaolee in Khureef
	BHAOLEE, .	.. ..	.. ..
Zail. UBWAB	SUR-I DEHEE,	Khureef, ..	30 0 0	per Village
		Rubee, ..	30 0 0	Ditto,
	SUR-I SUDEE,	Foujdaree, ..	2 0 0	per Cent.
		Dustoor-i-Dec- wance, .. }	2 0 0	Ditto,
	NUZRANA, .		10 0 0	Ditto,
	AMILANA, ..		10 0 0	Ditto,
	MINHACE-I- SEMA, }	Suruf-i-Sikkeh,	4 0 0	Ditto,
		Purkhace, ..	0 8 0	Ditto,
	TUPANEH, .		1 0 0	Ditto,
	TUALEEQ, ..		1 0 0	On every Remittance

Fusl, or Harvest	Produce	Quality of the land	Rate per Beegah	REMARKS
Mootu- furrugat. }	BHENT, ..	Amil, .	1 0 0	
		Peshkar, .	1 0 0	
		Surrisheldar, .	1 0 0	
		Fuotehdar, .	1 0 0	
		Ahlkars, ..	1 0 0	Each
	GUSHTEE*,	Amil, ..	1 0 0	*(Tuor) per Village.
	DUSTOOR-I- JURREEB, }	Joar & Bajra,	1 0 0	Per Beegah.
		Gehoon & Chuna,	1 0 0	Per Well
	DUSTOOR-I- DUST-KAT, }	Peada, ..	0 2 0	Each.
		Suwar, ..	1 4 0	Ditto
	DUSTOOR I- SHEHNEGE, }	Khureef,	0 0 0	10 Sers per Well
		Rubee, .	0 0 0	5 Sers per Stack.
		Shehna,	0 2 0	Each.
	DUSTOOR-I- ROOSOOM, }	Qanoongoe,	2 8 0	Per Cent.
	Do	Mooquddumee,	5 0 0	Per Cent.
	KHILLUT-I- ZUMLEND- REE, }		0 0 0	Agreeably to their respective condition.
		Sweetmeat on the Dehsra and other festivals }	1 4 0	At each Fusul on the Shugoon day, and 5 sers Sweetmeat per Village
Mubooat.	KUMLEE, ..	or Blanket,	0 0 0	1 per Village
	CHURSA,	or Hide,	0 0 0	1 per Village
	MESH,	Goat and Sheep,	0 0 0	1 per Village
	DUSTOOR I- NUOKIR SEBUOEE, }	Suwar,	0 8 0	Per Day
		Peada,	0 2 0	Per Day

[FORM No. 34.]

SEAHHA-AMDUNEE-I-MUHSOOL-I-RAHDAREE-I-SAYER (or Collec-
tions on account of Custom Duties) of *Purgana A., Jumadec-ool-uwul,*
Sun, Juloes 2nd.

Date 30th, FRIDAY, DAROGHA MOHUMMUD KHAN OF SAYER .. 76 9 0

Chubootra Khas,	{ Import, 32 2 6 }	55 10 0
	{ Export, 23 7 6 }	
Out Chuokces,	.... .. 13 5 0	
Miscellaneous,	.... .. 7 0 0	
		<u> </u>
IMPORT,	<u>32 2 6</u>	

RABIRUTUN BEOPAREE, from Nuwal ganj, 200 Bullocks loaded with Geor.

Fully loaded,	150	Balance brought forward,	157½
Not fully loaded,	50		

Average fully ditto,	175
Usual release, at 10 per cent.	<u>17½</u>

Customs,	12 2 6
----------	---------	--------

Established duty, at 1 anna per load,	0 13 6
---------------------------------------	--------

Sewit, or Miscellaneous.

Tahreeer, at 6 pie per Rupee,	0 5 0
-------------------------------	-------

• Choongee, at 2 ch. per Hallock, being

19½ Sers, at 0 annas 12 pie per

Rupee,	<u>2 0 0</u>
--------	-------	--------------

<u>2 5 0</u>

GOBINDRAM from Rehmut gunj, 100 Bullocks of K, haree Salt,		Loads.
K, haree Salt, Bullock loads	1000	900 0 0
Balance brought forward,		
Usual Release, at 10 per Cent.	100	21 6 0
Customs,		
Deduct,		
Sweetmeat Enam,	1 0 0	
Khoorak-i-Beoparee,	0 6 0	1 6 0
NETT BALANCE,	20 0 0	
Customs, at 2 per Cent.	18 0 0	
<i>Seewae,</i>		
Tuhreer, at 6 P. per Rupee, .	0 9 0	
Choongee, at 2 Ch. per Bullock, being 2 Mun 32 Sers } at 1 Rupee per Mun.	2 13 0	
	3 6 0	
Gross Custom Duties,	21 6 0	

EXPORT, 23 7 6

RANKISHEN BLOPAREE, from Fatehgunj, proceeding to Hydurgunj

One Hackery load of Silk, containing	<i>M.</i> 20 0 0	Balance brought forward,	<i>M. S. C.</i> 19 0 0
Usual release,	1 0 0		
Amount duty,	23 7 6		
Customs, at 1 R. per Md.	19 0 0		
Sewacy,	4 7 6		
Bhent,	2 0 0		
Tuhreer,	1 3 0		
Chit, hawan, at 3 pie per Rupee,	0 9 6		
Mohranah (or for obtaining the impression of the Seal.)	0 3 0		
Godown Charges,	0 8 0		
	4 7 6		

OUT CHUOKEES,	13 15 0		
CHUOKEE GOLA GHAUT,	10 1 0		
Amount collected,	12 1 0	Balance brought forward, ...	11 1 0
Deduct paid at the Chuokee, ...	1 0 0	Deduct paid at the Sudur, ...	1 0 0
Qanoongo,	0 4 0	Sudur Darogha,	0 8 0
Butwal,	0 4 0	Mooshrif,	0 4 0
Peons,	0 4 0	Stationery, &c. .	0 4 0
Oil, &c.	0 4 0		

NETT COLLECTIONS, 10 1 0

CHUOKEE RAEPOON,	3 14 0		
Amount collected,	5 0 0	Balance brought forward, ...	4 8 0
Deduct paid at the Chuokee, ...	0 8 0	Deduct paid at the Sudur, ...	0 10 0
Qanoongo,	0 2 0	Darogha,	0 4 0
Butwal,	0 2 0	Mooshrif,	0 4 0
Peons,	0 2 0	Stationery, &c. ...	0 2 0
Oil &c.	0 2 0		

NETT COLLECTIONS, 3 14 0SEWAE or MISCELLANEOUS, Rupees 7 0 0

Market,	0 12 0
Cash collected in Kowrees,	0 9 6
Collection in kind (Vegetables, Grains, &c) ...	0 2 6
Hire of Dookans or shops,	5 8 0
Monthly rent,	5 0 0
Daily ditto,	0 8 0
Inns, or Surâd,	0 8 0
Miscellaneous,	0 4 0
	<u>7 0 0</u>

[FORM No. 35.]

YAD DASHT-ISM-NUWEESEE-MOOLAZIMAN-SEEBUNDEE (or Memorandum of Men entertained for the *Seebundee*) of *Surkar Ahmudkhan* (or *Purgunah A.*)

Month, and Date of Employment.	SUTVARS (Horse.)		PEADAS (Foot.)		Total.	
	NAME.	Pay per Month	NAME.	Pay per Month	Total of Men entertained.	Total amount of Pay.
Mohurram 1213 F. S.	Dulgunjun Singh, .. }	15 0 0	Ramnauth, ..	4 0 0		
	Mohun Singh,	15 0 0	Hurnauth, ..	4 0 0		
	Ram Singh, ..	15 0 0	Hurreeram, ..	4 0 0		
	Gobind Singh,	15 0 0	Sheonauth, .	4 0 0		
	4	60 0 0	4	16 0 0	8	76 0 0
2d Ditto,	Ramrutun, ..	15 0 0	Lal Singh, ..	4 0 0		
	Munohur Das,	15 0 0	Gobindram, ..	4 0 0		
	2	30 0 0	2	8 0 0	4	38 0 0
Total,	6	90 0 0	6	24 0 0	12	114 0 0

[FORM

YAD DASHT-I-BURAWOORD-I-TUQSEEM-I-TULUB I-TUNKHWAH
Ahmudkhan's Surkar (or of Purguna A)

NAMES	SUWARS (Horse)						
	<i>From what Date</i>	<i>To what Date</i>	<i>Total Number of days</i>	<i>Rate per Month</i>	<i>Amount of wages due</i>	<i>Number of Suwars</i>	<i>Total amount of pay</i>
Dalgunjun Singh,	1st,	30th,	1 Month,	Rs 15	R A P 15 0 0	0	0 0 0
Mohun Singh,	1st,	30th,	Ditto,	15	15 0 0	0	0 0 0
Ram Singh,	1st,	30th,	Ditto,	15	15 0 0	0	0 0 0
Gobind Singh,	1st,	30th,	Ditto,	15	15 0 0	4	60 0 0
Ram Rutun,	2nd,	30th,	29 days,	15	14 8 0	0	0 0 0
Munohur Das,	2nd,	30th	29 days	15	14 8 0	2	29 0 0
Total,						6	89 0 0

No. 36.]

SEEBUNDEE (or Memorandum of Pay due to the *Seebundee Troops*) of
for the Month of *Mohurrim* 1213 F. S.

NAMES.	PEADAS (Foot.)								
	<i>From what Date.</i>	<i>To what Date.</i>	<i>Total Number of days.</i>	<i>Rate per Month.</i>	<i>Amount of wages.</i>	<i>Number of Peadas.</i>	<i>Total Amount of Pay.</i>	<i>Total Number of Siwars Peadas.</i>	<i>Total Amount.</i>
Ramnath, ...	1st,	30th,	1 Month,	Rs. 4	Rs. A. P. 4 0 0	0	0 0 0	0	0 0 0
Hurnath, ...	1st,	30th,	Ditto,	4	4 0 0	0	0 0 0	0	0 0 0
Hureeram, ...	1st,	30th,	Ditto,	4	4 0 0	0	0 0 0	0	0 0 0
Sheonath, ...	1st,	30th,	Ditto,	4	4 0 0	4	16 0 0	8	76 0 0
Lal Singh, ...	2nd,	30th,	29 days,	4	3 13 9	0	0 0 0	0	0 0 0
Gobindram, ...	2nd,	30th,	29 days,	4	3 13 9	2	7 11 6	4	36 11 6
Total, .....	..	..	....	..	....	6	23 11 6	12	112 11 6

[FORM

YAD DASHT-I-BURAWOORD-I-TULUB I-TUNKHWAH of SUWARS
hurram

SUWARS, OR HORSE														
In employ							Discharged						Total	
Names of Resa lhdars	From what date	To what date	Number of days	Number of men	Monthly amount of pay	Amount of wages due	From what date	To what date	Number of days	Number of men	Monthly amount of pay	Amount of wages due	Number of men	Amount of wages due
Mohun Singh,	1st	30th	30	100	1500	1500	1st	15th	15	100	1500	750	200	2250

No 37]

and PEADAS, appertaining to *Seebundee* or otherwise, from 1st to 30th Mo-
1213, *Fuslee*

PEADAS, OR FOOT														Total										
* In employ					Discharged					Total														
Names of the Juma-dars	From what date		To what date		Number of days	Number of men	Monthly amount of pay	Amount of wages due	From what date		To what date		Number of days	Number of men	Monthly amount of pay	Amount of wages due	Number of men	Amount of wages due	No of men in employ, both Suvars & Peadas	Ditto discharged, ditto ditto	Total of both	Amount of pay of men in employ	Amount of pay of men discharged	Gross Total
Ramnath,	1	30	30	100	400	400	1	15	15	100	400	200	200	600	200	200	400	1900	950	2850				

LAD DASHT-I-ISHWAREE-I-MOOLAZIMAN (or Descriptive Roll) of Surkar Ahmudkhan, or Purgina A.

SUWARS.						PEADAS.						
Name.	Name of his father and grandfather.	Caste.	Place of residence.	Distinguishing marks, date of entertainment, and rate of wages.	Age.	Description of the horse.	NAME.	Name of his father and grandfather.	Caste.	Place of residence.	Distinguishing marks.	Age.
Dulzanjan Singh. }	Son of Mohan Singh, and grandson of Man Singh.	Rajpoot.	Lakhnau.	Complexion brown, forehead broad, nose prominent, light hazel eyes, connected eyebrows, bored ears, pock-marked cheeks, a mole at the end of the left brown, beard and whiskers black. Middling stature. 4th Mohurrum. 15 Rs. per month.	About 25 years.	Sumund-i-Seeah Zano, or dun, with black points blazen front, 2 marks on the back.						

[FORM No. 39.]

NUMERATION TABLE.

Maba Sunk,h,	.....	.....	.....	1 2,3 4 5,6 7 8,9 0 1,2 3 4,5 6 7,8 9 0
Deh Sunk,hun,	.....	.....	.....	1,2 3 4,5 6 7,8 9 0,1 2 3,4 5 6,7 8 9
Sunk,hun,	.....	.....	.....	1 2 3,4 5 6,7 8 9,0 1 2,3 4 5,6 7 8
Deh Padmun,	.....	.....	.....	1 2,3 4 5,6 7 8,9 0 1,2 3 4,5 6 7
Padmun,	.....	.....	.....	1,2 3 4,5 6 7,8 9 0,1 2 3,4 5 6
Deh Neelan,	.....	.....	.....	1 2 3,4 5 6,7 8 9,0 1 2,3 4 5
Neelan,	.....	.....	.....	1 2,3 4 5,6 7 8,9 0 1,2 3 4
Deh K,hurbun,	.....	.....	.....	1,2 3 4,5 6 7,8 9 0,1 2 3
K,hurbun,	.....	.....	.....	1 2 3,4 5 6,7 8 9,0 1 2
Deh Urbun,	.....	.....	.....	1 2,3 4 5,6 7 8,9 0 1
Urbun,	.....	.....	.....	1,2 3 4,5 6 7,8 9 0
Deh Kuroran,	.....	.....	.....	1 2 3,4 5 6,7 8 9
Kuroran,	.....	.....	.....	1 2,3 4 5,6 7 8
Deh Lek,hun,	.....	.....	.....	1,2 3 4,5 6 7
Lek,hun,	.....	.....	.....	1 2 3,4 5 6
Deh Seluan,	.....	.....	.....	1 2,3 4 5
Seluan,	.....	.....	.....	1,2 3 4
Syan,	.....	.....	.....	1 2 3
Deh Saan et Dehate,	...	.....	.....	1 2
Haan et Hlaae,	...	...	.....	1

GENERAL JUMA WASUL BAQEE and JUMA KHURCH Account of *Muozas* appendant to *Pargana A.* in *Surkar B.* on account of the *Fuslee* year 1213.

General <i>Muozas</i> ,	$\begin{matrix} M \\ \{ \text{Uslee, 175} \\ \text{Dakhlee, 25} \} \end{matrix}$	$\begin{matrix} U \\ \{ \text{Fit for Culturm. 200,000} \\ \text{Unit for ditto, 100,000} \} \end{matrix}$	$\begin{matrix} B \\ 300,000 \end{matrix}$
<i>Muozas</i> belonging to the Purg from of old	$\begin{matrix} M \\ \{ \text{Uslee, 173} \\ \text{Dakhlee, 23} \} \end{matrix}$	$\begin{matrix} B \\ \{ \text{Fit for Culturm 195,000} \\ \text{Unit for Ditto, 100,000} \} \end{matrix}$	$\begin{matrix} B \\ 295,000 \end{matrix}$

MINHAKE, or DEDUCTION,

Jageer of Juma Khan,	$\begin{matrix} M \\ \text{Uslee, 5} \end{matrix}$	$\begin{matrix} B \\ 5000 \end{matrix}$	10,000
Detached to other Purg	$\begin{matrix} M \\ \text{Do 5} \end{matrix}$	$\begin{matrix} B \\ 5000 \end{matrix}$	
Settled Juma,		$\begin{matrix} Rs \\ 100,000 \end{matrix}$	
Balance of former year,		1,000	
		<u>100,000</u>	

DEMAND

Hall, or present year's Juma,	34,000 0 0
Usli-Mali-Khureef,	1,000 0 0
Increase in Ditto,	<u>35,000 0 0</u>
Uhwab-i-Khureef,	5,000 0 0
Usli-Mali-Rubee,	41,000 0 0
Increase,	<u>14,000 0 0</u>
Uhwab-i-Rubee,	55,000 0 0
	<u>5,000 0 0</u>
	<u>60,000 0 0</u>
Balance of former years,	<u>100,000 0 0</u>
	<u>1,000 0 0</u>
	<u>101,000 0 0</u>
Usli-Mali-Khureef and Rubee,	
Increase in ditto ditto,	75,000
Uhwab, ditto ditto,	15,000
	<u>100,000</u>

Nett Balance brought forward, $\begin{matrix} U \\ 165+25=190 \end{matrix}$ 0 0

$\begin{matrix} M \\ \{ \text{Fit for Cultivation, 190,000} \\ \text{Unit for Ditto, 100,000} \} \end{matrix}$ 2,90,000

Ruqba, { Shore and Bunjur, } 100,000

Gold Seal Varnish and Rubo.

	NETT COLLECTIONS.	
	Khuref,	37,000
	Rubce,	56,400
		<hr/> 94,000
		7,000
		<hr/> 1,01,000
BALANCE,		

EXPLANATION OF THE BALANCE

For Remission,	..	5,000
Recoverable,	..	2,000
		<u>7,000</u>

CHAPTER II.

CHAPTER II.

PARTS I. AND 2D.

On the Produce of the Khurreef and the Rubee Harvests.

In this Chapter the Author gives an account of the cultivation of all sorts of Grain, &c. the manner of Tillage, the different courses of Ploughing, Harrowing, Hoing, and Weeding, the quantity of Seeds, sown per Beegah, and the quantity produced therefrom, and a descriptive account of the stems, leaves, &c. of the crops, and the method of Reaping.

These the Author has written without that regularity and order which alone could have made the information interesting or useful. He has said a great deal without any absolute utility, and omitted very many essential points necessary to the completion of a Statement of the description in question. I have, therefore, taken some pains in collecting and arranging materials for a statement at once so curious and useful, and in rejecting all redundancies of the Author, and supplying their place with genuine information, which I obtained both from other books, and from men conversant in husbandry, and now beg to offer to the Reader a Table, with explanatory remarks, which I conceive cannot fail to be highly useful and interesting, for had I adhered to the translation of the Author merely, I should have been obliged to give a confused description of this part of the subject, abounding in superfluties, material omissions, inconsistencies, and a want of systematic arrangement.

In the search for materials for the above mentioned Table, I have been led to the discovery of the following facts, which, although perfectly understood by the agricultural Community, yet I conceive their insertion here will not be deemed irrelevant to the subject.

The month of *Asarh*, according to the course of nature, has been considered by the husbandmen as the best period in which cultivation could be commenced with advantage. Hence it was agreed by common consent to observe this month as the commencement of the cultivating Season in general.

The cultivators consider the year as containing three Seasons: the *Winter*, the *Summer*, and the *Rains*. The *Winter* is the Season when the *Khureef* crops come to perfection. The *Summer* Season brings the *Rubee* crops into maturity. The *Rains* partake both of the *Rubee* and the *Khureef* harvests.

The Produce of both the Harvests go under the heads of *Zubee*, *Nykarce* and *Kuchheina* as explained in the Table that follows, previously to the insertion of which I must here take leave to describe the various kinds of lands used in cultivation, as the Author has omitted some at the commencement of the 1st Part of the 1st Chapter of this Treatise.

Description of Land.

Kamil in general.—Is hard and not sandy, rather sloping, this kind of land is also called *Dehr* and *Jheel*. Sugarcanes and Wheat flourish here almost without the help of irrigation. Its well water is sweet, and to be

had from 20 to 30 cubits below the surface of the earth, and where the color of the soil is bluish, it is reckoned to be excellent.

Kaml, 1st quality — Is that land which abounds with *Jheels*, and yields water under a depth of 20 cubits. When such land is in the vicinity of population, it is called *Tidace*.

Kamil, 2d quality — Land of the above description, distant from population, and of a yellow color, is considered of a secondary kind, provided water can be had at 30 or 40 cubits depth.

Land of middling nature — Is that where water is obtained at the depth of 50 or 60 cubits, either fresh or brackish.

Do 1st quality — Should the above description of land be sandy, and nigh the seat of population, and the water nearer to the surface, it is considered of the first quality.

Do 2d do — But if the above land be far from the seat of population, it is of a second quality.

Kamil of 3d quality — Should land of *middling nature* of either description be extensive and nigh the seat of population, it is called *Kamil of the 3d quality*.

Naqis, 1st quality — Is that land in which *Kucha* wells cannot be sunk. If it be even, hard and not loose, it is of the *first quality* and is fit for sowing *Juo Khakee*, *Beejhur*, *Chuma* and *Joar*.

TABLE, shewing the PRODUCE of the KHURCH and the RUDEE
Ploughing, Harrowing, Hoeing, WEEDING and IRRIGATION, the quantity
REAPING, &c.

No.	PRODUCE.	When sown	When ripe	When reaped	Ploughing number of times required	Harrowing number of times requir- ed
	Khurree.					
	NIJKAREE					
1	BAJRA.....	Middle of Bhaden	Kiddle or Koonar	Beginning of Katik	0 to 8 times	4 times
2	DIHAN.....	End of Asarh and beginning of Sawun	Koonar	Katik to Ag, bun	3	1
3	GAJUR.....	Bhaden	Koonar to Poosc	Ag, bun to Mag h	4	0
4	JOAN.....	End of Asarh and beginning of Sawun	Katik	Ag bun	3	2
5	KAKOON.....	Do.	Bhaden	Koonar	3	1
6	KOODUEE.....	Do	Katik	Ag, bun	2	1
7	MUASH-I-SKEAH	Do.	Do	Do	0	0
8	MOSVU.....	Do.	Do	Do	0	0

No	PRODUCE	When sown	When ripe	When reaped	Ploughing number of times required	Harrowing number of times required
	Abureef. NIJKARIE					
9	Mukdee.....	Asarh	Bhaddon	Koonar	3	2
10	Mot, he....	Bhaddon	Koonar	Katik	3	1
11	Murool	Asarh	Bhaddon	Bhaddon	3	1
12	Pushee.....		0	0	2	1
13	Rois or Lobegat	Asarh	Aghun	Poose		
14	Sawan	Asarh	Bhaddon	Bhaddon	3	1
15	Singharh....	Sawun	Katik	Aghun		
16	Til	End of Asarh & begg. of Sawun	0 Katik	0 Doo	1	2
17	Urwee or.... O, hooetfa....	Jeth	Koonar	Katik	6	0
	ZUNTEE					
18	Aloo.....	Bhaddon	Aghun	Magh	7 to 8	4 to 5
19	Bun Asarhoo	End of Asarh begg. of Sawun	Middle of Koonar to Poose	Poose	3	1
			0	4 to 5	2	0

No	PRODUCE,	When ripe	When reaped	Ploughing number of times required	Harrowing number of times required
	Thureef.				
	ZUBTEL.				
20	HALDEE	Jet hand Asarb	Poose	Magh	to 5
21	Koondroo	Jet, b	Bhadon	Koonar	Sown
22	Neel Asarboo	Asarb,	Do	Do	to 3
23	Jamboo	Bysakh	Do	Do	to 3
24	T. hoot, hee	Vide.	No 23		
25	Ook, b	Between Magh and Phagoon	Aghun	Poose to Phagoon next	20 to 25
26	Peree	Vide	No 23		
27	Putsun	End of Asarb begs of Savun	Katik	Aghun	
28	Pulwal	Magb	Asarb.	Bhadon	
29	Pan	Asarb	Katik	From Katik to 3 succed ing years	7 to 8
30	P. hoot	Da.	Bhadon	Koonar	

Hoing and Weeding number of times required	Quantity of seed sown per Beegah	Quantity reaped per Beegah.	Extent of Irrigation	REMARKS.
0	5 C.	Muns	4 or 5 times	
1	20 0	5 to 6		
2	0. 8	4 to 6	.....	Sown among Pans.
3	5. 0	20 Sers Gadh	.....
4	5. 0	20 Sers Gadh	.....
5	5 to 600 canes.	7 to 8 Muns Goor	5 or 6	
6	0. 0	4 to 5 Muns Goor	5 or 6	
7				Sown around the Joar and Bajra fields
8	1,500 Sprigs or Cuttings	2 to 3 Muns	.....
9	2,000 Do.	300,000 leaves a year	.....
0	8 Ch.	4 to 5 Muns	.....	Sown along with Kappas

No	PRODUCE	When sown	When ripe	When reaped	Ploughing number of times requir- ed	Harrowing number of times requir- ed
Khureef.						
ZUBTEE						
31	Sun	End of Asarh and beginning of Sawun	Katik	Aghun	.....	.....
32	Tumakoo Katkec	Beginning of Asarh and end of Sawun				
KLCHHEEANA						
33	Bygun or Bhanta	Asarh	Katik	End of Katik, to Magh	4	2
34	Bagla properly called Bagla	Bhadon	Magh	Phagbon	3	2
35	Buthosa	Kloodro	.....	.....	.....	.....
36	Chuchunda	Asarh	Katik	Katik	Thala	.....
37	Chholatla	Magh	Chyt	Chyt to Asarh	4 to 5	2
38	Chooqundur ..	Sawun	Katik	Poose	5 to 6	2
39	Chooka	Do	Koonar	Katik	.....	.....
40	Dhendus or Bhindee	Asarh	Katik	Aghun	Thala	0
41	Gole Kades or Sectap hul	Do	Poose	Magh	2	1

Being and Maiden of times requir	Quantity of sown per Begah	Quant' of reaped per Begah	Extent of Ir- rigation	Remarks.
				Sown around Joss and Bajra fields
3 to 4	4 Ch.	5 to 6 M.	6 or 7 times	
5 to 6	1 S.	7 to 8 M.	.....
4 to 5	2 S.	2 to 3 M.	5 to 6 times	
				Grows Spontaneously.
4	1 S.	3 to 4 M.	.....	Sown in Thalass or Beds.
4 to 5	8 Ch.	2 to 3 M.	5 or 6	
4 to 5	2 S.	4 to 5 M.	5 or 6	
5 to 6	1 S. 8 Ch.	4 to 5 M.	4 or 5	
4	2 Ch.	2 to 4 M.	.....
4	1 S.	4 to 5 M.	5 to 7	

No	PRODUCE	When sown	When ripe	When reaped	Ploughing number of times requir- ed.	Sowing number of times requir- ed.
	Aburree.					
	KUCHHEEANA					
42	Kheera.	Jet h.	Bhadon	Koonar.	4	2
43	Kurum Kulla .	Sawuh.	Magh	Phagoon.	12 to 14	4 to 5
44	Kobee (Cauliflower)	Do	Poose	Poose.	11 to 12	5 to 6
45	Kahoo.....	Asath	Bhaddon	Koonar.	2 to 3	1
46	Kuchree.....	.....	.....	.....	.....	.....
47	Luokee (Kudoo) .	Asath	Katik.	Aghun.	Thala	.....
48	Moolce	Koonar.	Do or Aghee	End of Dec	4	2
49	Methee	Bhadon	Poose	Poose.	4	2
50	Mirch Soorkh ...	Asath	Katik.	Aghun to Magh.	4	2
51	Murra... ..	Do	End of Bhadon	Koonar	2 to 3	1
52	Naree	Khoodro	.....	.....	.....	.....
53	Petla or Koomhra	Asath	Koonar	Koonar	Thala	.....

Hoeing and Weeding number of times required.	Quantity of seed sown per Beegah.	Quantity reaped per Beegah.	Extent of Irrigation.	Remarks.
	S.			2221112
	S.			12111112
14 to 15	1100 S.	10 M.	.....12.1	21.1 .. . 1151
4 to 6	2000 Sprigs or Shoots.	2000 Cabages	12 to 14 times	20121 .. . 1151
4 to 6	1 1/2 S.	2000 Heads	Once every other Day	21.1 .. . 1151
4 to 5	2 S.	1 M.	.....12.1	21.1 .. . 1151
4 to 5	1/2 Ch.	4 M.	.....12.1	21.1 .. . 1151
4 to 5	1 S.	5 M.	5 or 6 times	Small Beds dug with hoe.
4 to 5	1 1/2 S.	5 to 6 M.	4 times after the rains	21.1 .. . 1151
2 to 3	1 S.	2 to 3 M.	4 times	21.1 .. . 1151
4 to 5	1 S.	{ 4 M. } { 4 Do. }		21.1 .. . 1151
2 to 3	3 Ch.	{ 2 to 3 M. }		21.1 .. . 1151
Of spontaneous growth.				
4	1 S.	4 to 5 M.	4 to 5	

No	PRODUCE.	When sown	When ripe	When reaped	Ploughing number of times requir- ed.	Harrowing number of times requir- ed.
	Khurree.					
	KUCHHEEANA					
54	Peast	Katik	Magb.	P.hagdon.	12 to 14	12 to 14
55	Paluk.	Bhaddon	Agghun: 21	Agghun: 20	5 to 6	2 to 3
56	RutAloo	Asarb.	Magh. 20	P.hagdon. 0	2 to 3	2 to 3
57	Shukurqund	Do.	Poose.	Do.	2 to 3	2 to 3
58	Same	Do.	Koppar.	Katik.	2 to 3	2 to 3
59	Shulghum.	Bhaddon	Katik. 10	Magh. 2	2 to 3	2 to 3
60	Soa	Katik	Magb. 20	Do. 2	2 to 3	2 to 3
61	Tooruté	Asarb.	Koppar.	Magb. 2	2 to 3	2 to 3
62	Turbooz katkee. .	Bhaddon	Beeg of Katik.	End of Katik.	2 to 3	2 to 3
63	Udruk	Asarb.	Chyt	Beeg of Jethp.	2 to 3	2 to 3
64	Zameen kund.	Asarb.	Magh 3 years af- ter sowing	Poose 3 years af- ter sowing	2 to 3	2 to 3

Age and Wading number of times requir	Quantity of seed sown per Begah	Quantity reaped per Begah	Extent of Ir- rigation	Remarks
				373-1111
4 to 5	2 S 1	M Grain or Seed.	10 or 12 times	
4 to 5	2 S 4	7 to 8 M	4 times	
4 to 5	20 S 3	7 to 8 M	10 to 12	
4 to 5	5 S 1	7 to 8 M	1 to 2	
4 to 5	1 S 1	2 to 3 M	Sown with Op. h.	
4 to 5	1 S	20 Muns		
2 to 3	1 S	2 to 3 M	5 to 6	
4 to 5	1 S	4 to 5 M	5 to 7	
4 to 5	1 S	100 to 400 Melons	6 times.	
3 or 4	20 S	10 to 25 M	12 to 14	
8 times every year	20 S	10 to 15 M	15 times every Sum- mer	

No	PRODUCE	When sown	When ripe	When reaped	Ploughing number of times requir- ed.	Sowing number of times requir- ed.
	Khureef.					
	NIKAREE					
65	Chuna.....	Koonar	Magh. 10 to 11	Chyt. 10 to 11	7 to 8	7 to 8
66	Chyna	Magh.	Ueth 10 to 11	Jeth 10 to 11	4 to 5	4 to 5
67	Ge,hoon.....	Katik,	Chyt. 10 to 11	Bysakh. 10 to 11	8 to 10	8 to 10
68	Jao Chahee	Do.	P.hagoon 10 to 11	Chyt. 10 to 11	10 to 11	10 to 11
69	— Khakee or Dhooya... }	Do. or Do.	Do. 10 to 11	Do. 10 to 11	10 to 11	10 to 11
70	Musoor.....	Begg of Asakh to end of Bahdon	Katik to Chyt. 10 to 11	Katik to Chyt. 10 to 11	4 to 5	4 to 5
71	Mutur.....	Katik	Magh. 10 to 11	Chyt. 10 to 11	6 to 7	4 to 5
72	Rycé.....	Do	P.hagoon 10 to 11	Do 10 to 11	2 to 3	2 to 3
73	Sirsoon.....	Do	Do 10 to 11	Do 10 to 11	2 to 3	2 to 3
74	Schoon.....	Do	Do 10 to 11	Do 10 to 11	2 to 3	2 to 3
75	Urhur.....	Asakh.	Chyt. 10 to 11	Bysakh. 10 to 11	2 to 3	2 to 3
76	— Ulce.....	Katik	P.hagoon 10 to 11	Chyt. 10 to 11	2 to 14	12 to 14

How far and how long it is re- quired	Q n n of el per Ice	Q n n of real per B egah	Ex'te t of H negatio	Remarks
.	20 S	5 to 6 M	4 times	.
.	10 S.	2 to 3 M	5 or 6	
....	20 S	4 to 7 M	3	.
4 . .	20 S	5 to 7 M	3	
4 . .	20 S	2 to 5 M	..	
.....	1 S	3 to 4 M	Twice	
.....	10 S	3 to 4 M	4 times	
.....	1 S	1 M	.....	Sown with wheat and Chuna.
....	4 Ch	2 M	... ..	Do. Do and Barley
....	8 Ch	20 S	... ..	Do Do Do
.	2 S	4 to 5 M	... ..	Do with Jear and Bajra.
..	15 S	2 to 3 M	4 to 5	

No.	PRODUCE.	When sown	When ripe.	When reaped	Ploughing number of times requir- ed.	Harrowing number of times requir- ed.
	Rubee.					
	ZUBTEE.					
77	Koosum.....	Katik.	Mag,h.	Chyt.	6	4
78	Khurboozeh.....	Mag,h.	Bysak,h.	Jet,h.	6	4
79	Turbooz Bysak,hce	Do.	Do.	Jet,h.	Thala	.....
80	Tamakoo Do.....	Bhadon.	Chyt.	Bysak,h.	6	2
81	Urund.....	Asarh.	Koonar to Mag,h.	Katik to P,hagoon }	.....	.....
	KUCHHEEANA.					
82	Balungoo.....	Khoodro.	.....	.....	.....	.....
83	Bygun.....	Koonar.	Chyt.	Bysak,h.	4	2
84	Dhunya.....	Bhadon.	Koonar.	Katik.	2	1

Mooring and Reeding number of parts requir- ed.	Quantity of seed sown per Beezah.	Quantity reaped per Beezah.	Extent of Ir- rigation.	Remarks.
.....	2 S.	1 to 1½ M.	3 times	
4	1 S.	5 to 6 M.	4 to 5	
4	20 S.	100 to 400 Melons	6 times	
3	2 Ch	4 to 5 M.	3 Do	
.....	3 S.	2 to 3 M	.....	Sown around Kupas.
.....	.....	.....	.....	Of spontaneous growth.
5 to 6	1 S.	7 to 8 M	.....
2 to 3	2 S.	2 to 3 M	5 or 6 Do	

No	PRODUCE	When sown	When ripe	When reaped	Planting number of times required.	Harvesting number of times required
	Kubec.					
	KUCHHEEANA					
85	Uspighool.....	Katik	End of Katik.	Agkun.	4	2
86	Kukree.....	Mag,h	Chyt	Bysak,h	4	2
87	Khoorfeh.....	P'hagoon	End of Bysak,h	Jet,h	2 to 3	1
88	Kasree.....	Katik	Mag,h.	P'hagoon	4	2
89	Kuwulgutta.....	Khodro	.....	.....	.....	.....
90	Kuseroo.....	Do	.....	.....	.....	.....
91	Kurela.....	Mag,h	Bysak,h	Sawun.	4	2
92	Lehsun.....	Koonar	Chyt.	Asarh	4	2
93	Peaz.....	Bhaddon	Bysak,h	Jet,h.	4	2
94	Ryhan.....	Khodro	.....	.....	.....	.....

Hoeing and Weeding number of times required.	Quantity of seed sown per Beegah.	Quantity reaped per Beegah.	Extent of Irrigation.	Remarks.
2 to 3	8 Ch	2 to 3 M	2 or 3 times	
2 to 3	1 S	7 to 8 M	10 to 11	
2 to 3	8 Ch	4 to 5 M	5 or 6	
3 to 4	8 Ch	2 M	4	
.....	.....	.....	.....	Of spontaneous growth.
.....	.....	.....	.....	Do Do Do
4	1½ S	4 M	8	
4	200 S	4 to 5 M	4 or 5	
6	1,000 Plant	7 M.	4 or 5	
.....	.....	.....	.....	Of spontaneous growth.

No	PRODUCE	When sown	When ripe	When reaped	Ploughing number of times requir- ed.	Harrowing number of times requir- ed
	Subcc.					
	KUCHHEELANA					
95	Suonf.....	Katik.	Mag.h.	P'hagoon.	4	2
96	Ujwayun.....	Do.	Do.	Do	4 to 5	2
97	Zeereh	Do.	Do.	Do.	5 to 6	4
	MISCELLANE OUS.					
98	Salt or K'haree } Lone.	.....	.....	.....	.....	.....
99	Podcena .....	.....	.....	.....	.....	.....
100	Gundana.....	.....	.....	.....	.....	.....
101	Halm.....	.....	.....	.....	.....	.....
102	Luoka or Tonba ..	.....	.....	.....	.....	.....

Sowing and reeding number of seeds re- quired	Quantity of seed sown per Beegah	Quantity reap d per Beegah.	Extent of Ir- rigation	Remarks.
5	8 Ch.	2 M.	4 or 5 times	
4	8 Ch	1 to 1½ M	4 or 5	
2	2 S.	5 to 3 M	5 or 6	
.....	.....	.....	.....	Manufactured from Saline Earth.
.....	.....	.....	.....	Planted all the Year round.
.....	.....	.....	.....	Do. Do
.....	.....	.....	.....	Do Do
.....	.....	.....	.....	Sown similar to Pet,ha.

REMARKS.

Bhurce.

NIJKAREE.

1. BAJRA....H....ARZUV.....V.....

JAWLRS.....V....A SPECIES OF MILLET.....E.

This is sown in all kinds of soil, *Kamil* excepted. Slight showers nourish it, but any rain in excess, when it is ripening, injures it materially. It is reaped, thrashed and winnowed like *Joan*. It is remarkable that this grain is only cultivated in the provinces of, and above, Behar. In consequence of its cheapness it is the general food of the lower class. The flour made from it is sweet and palatable, but said to be of a heating quality. This grain is very favourable to the fattening of poultry by steeping it in water.—The stems serve as food for cattle. *BAJRA* is a sister plant of *Joan*, but by far more delicate, and sooner affected by drought and other inclemencies of the season.

2. DHAN.....H....SHALEE.....H.

BIRUVJ.....P.....OORZZ URGOZZ.....A.

PADDY.....L.....(UNHUSKED) RICE .L.

RIZ.....P.....ORYZA.....L.

Natural order, Gramina. A genus of the Alexandria

Monogynia class.

This is sown in marshy land near the river. The soil is first dug by *Kussées* [pick axes] in the months of *Poose* and *Magh*, and left in

that state and is called *K, hul*. In *Jel, h* the *K, hul* is dug again and sown. But when *Shalee* is sown in any other soil than that which is marshy, the ploughing is delayed till the first falling of the rain in *Asqrh*. It is reaped, thrashed and winnowed similarly to *Moong*, and the produce is termed *Chawul* or Rice. It consists of the following different kinds.

Asnee

Bansmuttee

Doot, heea

Dhanee

Gurguwa

Hunsraj

Issuymal (this is prepared, and is the finest rice)

Kumode

Koondere

Moongee

Narungee

Ooswas

Oosna (prepared by a process of boiling)

Pirunpoke

Sela

Samjeera

Soonkhurcha

Sat, hee

Unjuna

Urwa.

"The ancients esteemed rice as an aliment of a light substance, and easy of digestion. As for Italians, says Pliny, we set the greatest store on rice, for it affords us grains superior to those which others make from barley. This grain is still very much used among aliments by all eastern nations, and especially the Indians. It is more easily digested and more grateful to the palate, when boiled in cow's milk, almond, cream, or pinguous broths prepared from flesh. It is commonly mixed with aliment intended for those who labour under a dysentery, and been extinguished. Helmont recommends rice to be boiled in water, or chalybeate milk, for those who spit blood.

"Rice is subject to other enemies than the winds and the worm; for about the time the ears are formed, there often arises a burning blast which runs on the ears and dries them: this is called the Devil's fire, and it never occurs but in the night. We conclude, that this fatal effect is produced by abundant electric fluid.

"The uses of rice are as various as those of any other grain. When boiled with milk and sugar, it is said to give both flesh and strength; it agrees with most constitutions, although, with some it causes tightness, and sits heavy on the stomach. It thickens soups and broths without giving a taste.

"The Chinese draw a strong and rather agreeable spirit from rice; they also form various figures and ornaments from a paste made of rice.

"Decoction of rice is pectoral and astringent: this decoction in water makes the basis of the Indian medicine."

S GAJUR

H

GURUR

P.

ZURDUE

P

JURUR

A.

CARROT

E

DAUCUS

L

CARROTIF

F

Natural order, Umbellata, A genus of the Pentandria

Digynia class

This is sown in *Polich* land and produces both of the *Khureef* and the *Rubee* harvests. It is sown in the former and dug in the latter harvest. The fields are irrigated from wells. Its general use is for culinary purposes. It makes a palatable *Hulca* in milk, and is likewise used for pickles. Some persons feed their horses with it. A tincture drawn from it is used in medicine. A spirituous liquor is likewise distilled from it.

“Pliny observes that in whatever country the carrots grow, the best are produced in sound dry ground, that wild carrots are to be found in moist countries, but never in a poor hungry soil”

“The ancients used the seed both of the wild and cultivated carrot, as an internal medicine against the bite of serpents, they also gave it to animals that had been stung by them, a dram weight in wine was thought a sufficient dose”

“The French consider the *carotte violette*, purple carrot, to be the sweetest of all the kinds, but it is generally found to run to seed the year it is sown

“The garden carrot delights in a warm sandy or light soil which should be dug deep, that the roots may better run down, for if they meet

meet with any obstruction, they grow forked. Carrots should not be sown on land that has been digged the same year, as it causes them to be worm eaten, but when they are sown on fresh ground well prepared, a heavy crop may be expected."

"The seeds should be sown on a calm day, as, from their light and feathery nature, it is impossible to sow them regularly when the air is agitated. It is also a good practice to mix the seeds with sand, in order that they may not adhere together in sowing."

"Dr. James says, carrots are one of the most considerable culinary roots, and are a very proper food for consumptive persons. They are somewhat flatulent, but are thought to render the body soluble, and to contribute to the cure of a cough."

"In the *Historia Plantarum*, ascribed to Boëthius, we read that this root is much celebrated for its virtues against the stone, and nephritic disorders."

"The seeds of wild carrots are esteemed one of the most powerful diuretics we are acquainted with, of our own growth. They are given in disorders of the breast and lungs, in pleurisies, in stranguries, and in the stone and gravel. Helmont informs us that he knew a gentleman who was seized with a fit of the stone every fifteen days, freed from the attacks of his disorder for several years, by means of an infusion of carrot seed in clear malt liquor. An infusion of them in white wine is excellent in hysterical complaints."

4. JOAR. H. . . . ZURRUT. . . . A.

A KIND OF MILLET. L.

It is sown in land of every description excepting such as is high and sandy. The last process of ploughing is accompanied by casting in the seed. The produce from the *Rubee* land of the last cultivation is abundant and is called *Oomra*, that from the *Khurce* land is less and is called *Surhete*. JOAR is reaped and collected in heaps and is trodden out by cattle which separates the grain from the husk, and is then winnowed. The whole is but the work of a day. This corn similar to *Bayna* is cultivated only in the Provinces of, and above *Béhar*. A flour prepared from it is used by the lower class. The grain is likewise given to the poultry. The stems serve as fodder for cattle.

5. KAKOON. H. . . . KUNVEE. . . . H.

SHANEN DUSITER. . . . P. . . . DOOKH. . . . A.

THE COME TREE. F. . . . A SPECIES OF MILLET. E . . .

This is sown in *Kamil* and rich soil, and is reaped similarly to *Moonc*. The land is afterwards used for the cultivation of Barley, Wheat and Sugarcanes. The lower class use it as rice, but in general it serves as food for birds. The stems are food for cattle.

6. KOODUEE. . . . H. . . . KODOV. . . . H.

KODRUM. . . . P. . . .

Of the Arzun and Jawurs land

This is sown in *Poluch* land and reaped similarly to *SHALF* or *DHAN*. The soil is afterwards used for the cultivation of Grain and is — The

poor class use it as rice, but it generally serves for the feed of birds. The stems are food for cattle.

7. MUASH-I SEAH....P....KULAE.....H.

CORD.....H... A KIND OF PULSE ..E.

This is sown along with JOAN and reaped accordingly. It is however trodden out twice instead of once in consequence of the husks being of a more adhesive quality.

8. MOONG...H...MUASH-I-SUBZ....P.

A SPECIES OF PULSE, E.

This is sown with BAJRA and is reaped similarly to MUASH-I-SEAH.

9. MUKUEE.....H...BHOTT.....H.

INDIAN CORN.....E...MAIS...T.

This is sown in lands lying near to the seat of population and reaped similarly to JOAN.—The land is afterwards used for the cultivation of Wheat and Barley.—This corn is used both by parching and in flour.—The stems serve as food for cattle.

10. MOAT, H...H...A KIND OF PULSE...T.

This is sown in such land as had been used for the preceding *Khu-ee* harvest, or *Bunjur* land, and reaped similarly to JOAN,—generally used in the feed of cattle, and by the poor class as flour for bread. The stems serve as fodder for cattle.

11. MURQOA.

11. MUROOAH. H. A KIND OF PULSE. E.

This is sown in *Poluch* land and reaped similarly to *BARA*. Generally used for food by the lower class.

12. PUSUEE. H. A SPECIES OF WILD RICE. E.

This grows spontaneously in Tanks, and is reaped like *DHAN*.

13. ROAS. H. LOBEEA.

FURLEQEH. A. BEAN (A KIND OF). E.

14. FABA. L.

This is sown on the verge of the *JOAR*, *BARA* and *KURAS* fields, and reaped similarly to *JOAR*. The beans are used as vegetable, and the seed like *Moone* and other vetches (*Dalls*).—

15. SAWAN. H. SHAMARH. P.

A KIND OF MILLET. E.

This is sown both in *Poluch* and *Bunjur* lands, and reaped similarly to *BARA*. The land is afterwards used for the cultivation of Gram and Peas. It is used as rice and flour by the poor class, and serves as feed for birds. The stems are given to the cattle.

16. SINGHARA. H.

Sown in *Talabs*, and is of a sweet and cooling nature when eaten raw; after it is dried flour is made of it, chiefly used by the Hindoos on fast days.

16. TIL.

16. TIL.....H.∴Koonjoo.....P.

Simsi.....A ...Sesame or Sesava Plant...E.

SesamumL. GC II 32

*Natural order, Lauridæ. A genus of the Didymia**Angiospermia class and order.*

This is sown with JOAR and URUR. The crops are reaped dried, thrashed and winnowed. Oil expressed of the seed serves for lamp and culinary purposes.—The seed is likewise used in confectionary and medicine.

17. URWEEV.....G, HOOECAM.

Kuchoo.....H.∴Qoolqas ∴A.

BASTARD POTATOES.....E.....ARUM.....L.

Natural order Peperitæ A genus of the Monoecia Hexandria class.

This is cultivated like the Sugarcane, the soil for it is chosen from the Bhoor, sandy and loose kinds, and watering is only observed twice. When arrived at perfection it is dug up and used in culinary purposes.

Another species of URWEE grows wild, but not used in eating : both the leaves and the root of this wild *G. hooeca* abounds in a very acrid juice, and, if applied to the tip of the tongue, it causes a very painful irritation, as it continues to burn and vesiculate the tongue for some hours — these symptoms are alleviated by butter, milk or oily liquors. Its medicinal properties are said to be stimulant and attenuant.

ZUBTEE

ZUBEEB, T.

18. ALOO POTATOES

SOLANUM TUBEROSUM, L. POMME DE ARRÉE, F.

*Natural order, Lauræ; A genus, of the Pentandria**Monogynia class.*

An exotic plant, growing in Kamulūmid, land sandy, loose, dark, used in culinary purposes. The flower makes a beautiful yellow dye.

As good information, sanctioned by practice, will always be acceptable, I insert the following passages in regard to the culture of potatoes.

Lord Bacon says, "If potato-roots be set in a pot filled with earth, and then the pot with earth be set likewise within the ground (some two or three inches, the roots will grow greater than ordinary. The cause may be for that having earth enough within the pot to nourish them, and then being stopped by the bottom of the pot from putting strings downward, they must needs grow greater in breadth and thickness. And it may be that all seed-roots, potted and so set into the earth, will prosper the better."

On the Culture of Potatoes.

By the Rev. H. J. Close, Trimley, Suffolk.

The following practical observations on the culture and use of Potatoes, will not, I hope, appear entirely uninteresting. They are the result of various experiments made for five years successively on that valuable root, the growth of which cannot be too much encouraged.

T. L. J.

When the Potatoe crop has been the only object in view, I have adopted the following method with the greatest success.

The land being well pulverized by two or three good harrowings and ploughings, is then manured with fifteen or twenty cartloads of dung per acre, before it receives its last earth. Then it is thrown on to what the Suffolk farmers call the *trench balk*, which is narrow and deep ridge work, about fifteen inches from the center of the other.

Women and children drop the sets, in the bottom of every furrow fifteen inches apart, men follow, and cover them with large hoes, a foot in width, pulling the mould down so as to bury the sets five inches deep; they must receive two or three hand hoeings, and be kept free from weeds; always observing to draw the earth as much as possible to the stems of the young plants.

I find, by repeated trials, the first or second week in April the most advantageous time for planting.

In the end of September, or the beginning of October, when the haulm becomes withered, they should be ploughed up with a strong double breasted plough.

The workman must be cautioned to set his plough very deep, that he may strike below all the Potatoes, to avoid draining the crop.

The women who pick them up, if not carefully attended to, will leave many in the ground, which will prove detrimental to any succeeding crop, whether wheat or barley. To avoid such inconvenience, let the land be harrowed, and turn some in, to clean the fluy that may be left by their negligence.

By

By this method, the sets will be fifteen square inches from each other; it will take eighteen bushels to plant an acre; and the produce, if on a good mixed loamy soil, will amount to three hundred bushels.

If the Potatoes are grown as a preparation for wheat, prefer having the rows two feet two inches from each other; hand-hoeing only the space from plant to plant in each row; then turning a small furrow from the inside of each row by a common light plough; and afterwards, with a double-breasted plough with one horse, split the ridge formed by the first ploughing thoroughly to clean the intervals.

This work should not be done too deep the first time, to avoid burying the tender plants; but the last earth should be ploughed as deep as possible; and the closer the mould is thrown to the stems of the plants the more advantageous it will prove. Thus fifteen bushels will plant an acre, and the produce will be about three hundred bushels; but the land, by the summer ploughings, will be prepared to receive seed wheat immediately, and almost ensure a plentiful crop.

The Potatoe sets should be cut a week before planting, with one or two eyes to each, and the pieces not very small; two bushels of fresh slaked lime should be sown over the surface of the land as soon as planted, which will effectually prevent the attacks of the grub.

Experiments on Potatoes.

By John Kirk, Esq. of Ipswich.

In the spring 1782, an old lay near Ipswich was ploughed; the first plough skinned off the turf about an inch and half deep; women fol-

lowed.

lowed and laid, the Potatoe sets (the *Globe white*, called also the *Champion*) in that furrow; then came another plough that cut as deep as possible, covering the sets nine inches deep.

"There is no danger of burying them as they rise freely. In this manner without any manuring, planted every third or fourth furrow, put one, and part the other: in the first, the rows were 27 inches asunder, in the latter, three feet. The former yielded the greater crop. They were all kept clean by horse and hand hoeing, were taken up with three pronged forks; at the expence of a halfpenny a bushel. The crop 400 bushels an acre, and sold at 2s a bushel, or 50l. an acre, gained at a very trifling expence."

METHOD OF PRESERVING POTATOES.

Potatoes being of such extensive utility, various expedients have been contrived, with a view to preserve them. The most common method is, that of piling them up, after they have become dry, in heaps resembling the roof of a barn, covering them closely with straw, in such a manner as to meet in a point at the top, and then slightly spreading them over with mould, which is beaten down with a spade. Some husbandmen make holes in the sides and top of the earth, in order that the air, arising from the natural heat of the roots, may evaporate; and, as soon as the steam ceases, the cavities are filled up, to prevent the effects of frost or rain. Another mode consists in depositing them in pits, and covering them with dry straw, or with the haulm of the roots, by which management, if their surface be perfectly dry, at the time they are put in, potatoes may long be preserved in a sound state.

In Pennsylvania, potatoes are commonly kept in the vault, under the bank leading to the threshing floor of the barn: and from the equable temperature of the heat therein, they are preserved very well, neither freezing nor vegetating. When necessary, the Sussex county plan, mentioned in the Report of the Board of Agriculture, may be adopted. Holes are dug in the side of a hill, six yards wide, ten feet deep, and of an indeterminate length: carts from the field unload at top, and they are taken out at the bottom, which opens to the slope of the hill, where a wall is built with a door. When full, a stack of stubble or straw is built over the hole, wide and large enough for security against all frosts. In this manner the effluvia of the roots, rising through the stubble, does not occasion their rotting from heat.

"A mode of keeping potatoes, was lately and successfully tried by the Bath and West of England Society; and which certainly is less complex than that before described. It consists simply in slicing potatoes, without taking off the the rind or skin, and afterwards drying them in an oven or kiln. The roots thus prepared will remain sweet for almost any length of time: the Society sent some to Jamaica, in a barrel, which had been four years from Britain, and, on their return, were found not to be in the least degree affected.

"The propriety of this method of preserving potatoes, would seem to be confirmed, by the following communication, taken from the London Commercial and Agricultural Magazine; the communication is signed 'A West-India sea captain,' and dated 'Liver-Pool, March 24, 1802.'"

I have made some efforts of late years, towards improving and extending the common methods of preserving stores on board ship: and the result of a few of them I take the liberty of sending to you, for the use of your publication, if esteemed worthy of notice.

Finding the potatoe the most useful of all vegetables, I have had recourse to every possible means of preserving it. I have found this root most effectually preserved by slicing and gently baking it. After this process it will keep sweet for years. And in this state it is very serviceable to eat as bread, to boil for various purposes, or to be ground into flour, which may be mixed with wheaten flour, for many salutary and profitable uses. I have a hand mill on purpose to grind these potatoe slices, and likewise to grind biscuits. I have always been careful in selecting a dry mealy potatoe for this use, particularly that species distinguished by the name of champions. I always order the peel of the potatoes to be scraped off, and the eyes clearly taken out (in the same manner as every judicious cook prepares this root for the table) prior to their being sliced, and dried or baked; and this will remove that strong flavour and smell of the potatoe, which would otherwise prevail in the flour. Due care should, in this case, likewise be taken in the selection of dry and seasoned casks for the reception of this food; especially if intended to be kept for a long voyage; and, to ensure a certainty of continuance of dryness, I have generally packed this preparation in, what is almost the driest thing in nature, the husks of oats, or what is called meal-seeds, which may be procured in abundance in any of the northern parts of England, or wherever oat-meal is made.

19 BUN ASARIHOO..... H. KUPAS H.

ROOCE (THE PRODUCT) H. DURKHT-I-POONDEH. P.

ROOTY..... A. COTTON PLANT..... E.

GOSYIUM..... L. COTONNIFERA..... F.

Natural order Malvaceæ or Calamifera A genus of the

Monadelphia Polyandria class.

This is sown in all soils, particularly such where Wheat, Barley and Gram have been the preceding crops, and also, such as have been used for the last Kharif harvest. Wheat and Barley lands are more productive than those of any other kind. The produce of the first is called *Bun Oomfi* and that of the second *Bun Sahele*. It has also been known to have been sown with advantage in *Bunja* land, and whence Indigo has been reaped. Excess of rain causes it to rot, and without any, it withers. Undrained, sandy and high soils are not used in its cultivation. The pods or capsules are gathered every four days by labourers, who are paid at the rate of one eleventh part of what they gather. Some sell the pods or capsules in the state they are gathered, and others dispose of them after separating the down from the seed through the means of a Gin. The latter is called *Binola* and the former *Rooce*. *Binola* is used both as seed for sowing (after besmearing it with cowdung) and food for cattle.

The following account of a pound weight of un-manufactured cotton strikingly evinces the importance of the trade and employ afforded by this vegetable: "The cotton wool came from the East Indies to London; from London it went to Manchester, where it was manufactured into yarn, from Manchester it was sent to Paisley, where it was wo-

ven, it was then sent to Ayrshire where it was tambered, it came back to Paisley, and was there reined, and afterwards it was sent to Dumbarton, where it was hand sewed, and again brought to Paisley, whence it was sent to Renfrew to be bleached, and was returned to Paisley; whence it went to Glasgow and was finished, and from Glasgow it was sent per coach to London. The time occupied in bringing this article to market was three years, from its being packed in India till it arrived in cloth at the merchants warehouse in London. It must have been conveyed 5000 miles by sea, and about 920 by land, and contributed to support not less than 150 people, by which the value had been increased 200 per cent."

"Cotton cloth, like that of linen, when decayed is transformed into paper for printing."

"The seed of the cotton plant intoxicates potatoes. Old medical authors mention the seeds as being a good remedy for colic, and of a singularly stimulating quality."

"The following mode of cultivating cotton is recommended by PIERCE BUTLER Esq. of the Island of St. Simons in the State of Georgia where he successfully plants this article

"If the land has been recently cleared, or has long remained fallow, turn it up deep in winter, and in the first week in March bed it up in the following manner, form 25 beds in 100 square feet of land, (leaving the space allotted to each able to flower for a day's work), thus leaving about four feet, two and one half inches from the centre of one bed, to

the centre of the next. The beds should be 3 feet wide, and flat in the middle. About the 15th of March, in the latitude of from 29 to 30°, the cultivator should commence sowing, or, as it is generally termed, planting. The seed should be well scattered in open trenches, made in the centre of the beds, and covered: the proportion of seed is one bushel to one acre; this allows for accident occasioned by worms, or night-chills. The cotton should be well weeded by hoes once every twelve days till blown, and even longer, if there is grass, observing to hoe up, that is, to the cotton, till it pods; and hoe down when the cotton is blown, in order to check the growth of the plant. From the proportion of seed mentioned, the cotton plants will come up plentifully, too much so, to suffer all to remain. They should be thinned moderately at each hoeing. When the plants have got strength and growth, which may be about the third hoeing, to disregard worms and bear drought, they should be thinned according to the fertility of the soil, from six inches to near two feet between the stocks or plants. In rich river grounds the beds should be from 5 to 6 feet apart, measuring from centre to centre; and the cotton plants, when out of the way of worms, from two to three feet apart. It is advisable to top cotton once or twice in rich low grounds, and also to remove the suckers. The latter end of July is generally considered a proper time for topping. *Gypsum* (plaster of Paris) may be used with success on cotton lands not near the sea. In river grounds draining is proper; yet these lands should not be kept too dry. In tide lands, it is beneficial to let the water flow over the land, without retaining it. In river lands a change of crops is necessary. From actu-

al experiment; it has been proved that river tide lands having, the preceding years, had rice sown in them; yielded much more cotton the succeeding year than they would have afforded by a continuation of cotton.

"The mere growing of cotton is but a part of the care of the planter; very much depends on classing and cleansing it for market, after it has been housed; sorting before it goes to the jennies, moating and removing any yellow particles, are essential to assure a preference at a common market of competition."

There is a species of silky down produced in pods, (similar to those of the cotton plant) on a very large tree called the *Seemul* or as some say *Seemul*. It is only fit to fill beds with. Experiments have been made to bring it to other uses but from its peculiar glossy quality the fibres are so short that it can neither be carded nor spun.—It has also failed in the making of paper.

20. HULDEE

H.

ZORDCHODE

P.

ZURSOO

P.

OOROOQ-OOS-SORHAGHEEN

A.

OOROOQ-OOS-SOOF

A.

OOROOQ-OOS-ZAEPEAN

A.

TURNERICK

E.

CURCUMA

L.

SAFRAN

P.

Natural order Scitamineæ. A genus of the Monandria

Monogynia class.

This is sown in Kamil land. It is used as an ingredient in culinary purposes, also in coloring. It has an agreeable aromatic smell, and a bit-

terish

terish pungent taste: In medicine it is esteemed aperient, and emmenagogue; and of singular efficacy in the jaundice.

21. KOONDROO. H.

H.

A vegetable of the Pulwul kind, sown along with PAN.

22. NEEL Asarhoo. II.

NEELEH. P.

NEELUJ. A.

INDIGO. E. F.

INDIGOFERA. L.

Natural order Papilionaceae. A genus of the Diadelphia

Decandria class.

This is sown in all kinds of land. Plentiful showers causes it to flourish, but a scarcity of it makes the crops very poor. When the air is impregnated with a strong odour peculiar to Indigo of advanced growth, it is a sign of the crop being ripe, when it is cut close at the root, and at mid day thrown into a vat (prepared for the purpose) of Chchbuchd, which is then filled with water and the plants pressed down by large weighty stones to keep them fully immersed. On the following morning the water is let off into an adjoining vat, in which 1-Ser. of gum to the proportion of 40 Muns of Indigo plant or Lank is solved, when 2 or 3 men descend into the vat and beat the water with their feet and paddle until it assumes a blueish colour.—At night the sediment or fecula subsides at the bottom, and a clear water remains at the top, which on the following morning

morning is thrown off lightly. The sediment (called *Gadh*) is taken in sheets of cloth, and tied up close, in order that by compression the remaining water may also ooze out. The *gadh* so prepared is sold, either in its wet state, or dried and formed into *Guttees* or cakes. The *Gadh* when dried weighs in proportion as 1 *Ser* of dry is to 6 of wet; the expenses attending the manufacture is at the rate of 2 Rupees per wet *man*. Some fields are generally reserved for seed which ripens in the month of *Katik* and reaped like other grains. Indigo is used generally in coloring and sometimes also in medicine; a decoction made from the root is said to be excellent against nephritic colics; its leaves, applied to the abdomen, are good to promote urine; and the indigo itself is of good use in drying of tumours.

As the quality of the Indigo greatly depends upon the manner in which it is manufactured, it will not be amiss to give the following passages from some approved works on the subject.

The apparatus for indigo works, though large, are not very expensive; the whole consisting of a pump, vats, and tubs. As soon as the plant is cut, it is put into a steeping vat of about twelve feet long and four deep to the height of about fourteen inches. The vessel is then filled with water, and the plants left to macerate about twelve or fourteen hours, when they undergo a fermentation, and begin to rise and grow sensibly warm. Spars of wood are then laid across, to prevent the indigo from

Gadh is manufactured by Europeans by a further process of boiling which clears it entirely from all its impurities and leaves a very beautiful blue. It is attended with considerable expense, but the price which the Indigo thus prepared fetches at the Europe market leaves a very handsome profit to the Speculator.

from rising too much, and a mark is set to denote the highest pitch of its ascent. In about twenty-four hours, the fermentation having attained its due pitch, and beginning to abate, the operator lets off the liquor by a cock into another vat, called the beater, the mortar, or the pounding-tub. The gross matter is taken for manure, and the steeping vat cleansed for the reception of fresh plants, as long as the harvest continues.

The liquor that has run into the beating-tub is found strongly impregnated with a very subtle earth which alone constitutes the blue substance required. To separate this from the useless salt of the plant, which makes it float on the surface, the liquor is agitated by incessant beating with bottomless buckets full of holes and fixed to long handles, until it heats, froths, and rises above the rim of the vessel which contains it. To allay this violent fermentation, oil is thrown in, which instantly causes it to subside. This part of the process requires the greatest precaution, for if the agitation be discontinued too soon, the part that is used in dyeing, not being sufficiently separated from the salt, would be lost. If, on the contrary, the dye were to be agitated too long after the complete separation, the parts would be brought together again, and form a new combination; and the salt re-acting on the dregs would excite a second fermentation, that would alter the dye, spoil its colour, and make what is called burnt indigo.

To prevent these accidents, a close attention is paid to the least alteration the dye undergoes, by taking up some of the liquor in a glass

from

from time to time. When it is perceived that the blue particles collect, by separating from the rest of the liquor, they leave off shaking the buckets, and pour lime-water into it, and gently stir the whole. The blue dregs precipitate to the bottom of the tub, where they are left to settle till the water is quite clear, when it is let off by taps or holes, one below the other, until nothing remains at the bottom but the blue dregs, which are then put into coarse linen bags: these are hung up until the moisture is entirely drained off. To complete the drying, this muddy substance is worked upon boards of some porous wood, with a wooden spatula, and it is frequently exposed to the morning and evening sun, though but for a short time only, and then being put into boxes or frames, is again exposed to the sun, in the same cautious manner, until it is made fit for market.

"The best is of a dark blue inclining to violet, bright and sparkling when broken, and will float on water. It may be tried by dissolving a little in a glass of water, when if pure, it will mix equally with the liquor; but if otherwise, will separate, and fall to the bottom. Indigo may also be tried in fire, where it will burn entirely away if good, but the adulterations remain unconsumed." *Phillip's Call. Veg.*

"This production ought to be gathered in with great precaution, for fear of making the farina that lies on the leaves, and is very valuable, fall off by shaking it. When gathered, it is thrown into the steeping-vat, which is a large tub filled with water. Here it undergoes a fermentation,

tation, which in twenty-four hours at farthest is completed. A cock is then turned to let the water run into the second tub, called the mortar or pounding tub. The steeping-vat is then cleaned out, that fresh plants may be thrown in, and thus the work is continued without interruption. The water which has run into the pounding-tub is found impregnated with a very subtle earth, which alone constitutes the dregs or blue substance that is the object of this process, and which must be separated from the useless salt of the plant, because this makes the dregs swim on the surface. To effect this, the water is forcibly agitated with wooden buckets that are full of holes and fixed to a long handle. This part of the process requires the greatest precautions. If the agitation be discontinued too soon, the part that is used in dying, not being sufficiently separated from the salt, would be lost. If on the other hand, the dye were to be agitated too long after the complete separation, the parts would be brought together again, and form a new combination; and the salt reacting on the dregs would excite a second fermentation, that would alter the dye, spoil its colour, and make what is called burnt indigo. These accidents are prevented by a close attention to the least alterations that the dye undergoes, and by the precaution which the workmen take to draw out a little of it from time to time in a clean vessel. When they perceive that the coloured particles collect by separating from the rest of the liquor, they leave off shaking the buckets in order to allow time to the blue dregs to precipitate to the bottom of the tub, where they are left to settle till the water is quite clear. Holes made in the

tub, at different heights, are then opened one after another, and this use-
less water is let out. The blue dregs remaining at the bottom having
acquired the consistence of a thick muddy liquid, cocks are then opened;
which draw it off into the settler. After it is still more cleared of much
superfluous water in this third and last tub, it is drained into sacks;
from whence, when water no longer filters through the cloth, this matter
now becomes of a thicker consistence, and is put into chests, where it
entirely loses its moisture. At the end of three months the indigo is fit
for sale. *Nich. Ency.*

The indigo is cut when in flower; the tips of the branches only
being taken, and several cuttings made during the season.

In bringing in the slips, care is taken not to lose more of the pol-
len, or farina-secundans, than necessity compels; this part of the plant
being peculiarly valuable. The slips are thrown into a steeping vat, or
large tub, filled with water. There it undergoes a fermentation, which
is completed in twenty four hours. The water is then drawn into another
tub, called the mortar, and the vat being cleansed, is ready to receive a
second supply of slips. The water that has run into the pounding-tub,
is found impregnated with a subtile earth, which alone constitutes the
substance, which is the object of the labour, and which must be separated
from the salts of the plant, which are here useless. To effect this, the
water is forcibly agitated with wooden buckets. These buckets are
pierced full of holes, and fixed to a long handle. When it is perceived
that the coloured particles collect together, by separating from the water,

bags, and exposed in shallow wooden boxes to the air, without exposing it to the sun, and carefully keeping it from the rain, till thoroughly dry,

"The author above mentioned, from whom the whole of the foregoing account is extracted, observes farther, that the goodness of the *indigo* depends greatly upon the age of the plant; that before it has grown fully ripe, the quantity it yields is less, but the colour proportionably more beautiful, that probably the secret of those *indigo* has been most esteemed, is no other than cutting the herb at the time when it yields the finest colour, that the superiority of some of the *indigos* of the East Indies to those of America, is perhaps owing to the former being prepared more curiously from only the leaves of the plant, and that by beating the herb in the steeping-vat, which has been practised by some with a view to increase the quantity, great part of the substance of the leaves and bark is blended with the water along with the colouring matter, and the *indigo* extremely debased

"It is said that lime or lime-water is sometimes employed in the beating-vat, to promote the separation of the tinging particles from the water; and that the hardness or flintiness of some sorts of *indigo* is owing to an over-proportion of this addition.

"Pomet says, that the Indians of the village of Sarguesse, near Amadabat, use only the leaves of the *indigo*, and throw away the plant and branches, and from thence the most esteemed *indigo* is brought.

"*Indigo* is commonly divided, from the colour which it exhibits upon breaking into three kinds, copper-coloured, purple, and blue. It is said that the dyers use chiefly the first, and the callico-printers (for this drug

gives a durable stain to linen as well as woollen) the last. On what particular circumstances these different appearances depend we know not; nor is it certainly known, whether the real quality of the *indigo* has any connexion with them. The deepest and liveliest blue *indigo*, rubbed with the nail, looks like polished copper; and solutions of all the sorts, made in alkaline lixivia, assume alike a copper-coloured skin upon the surface.

"Good *indigo* is moderately light, breaks of a shining surface, and burns almost wholly away upon a red-hot form. It is quickly penetrated by water, and reduced into a kind of paste; a considerable part is at the same time diffused through the liquor, and very slowly subsides. This is probably what Labat and Hellot mean by its dissolving in water; for no part of the *indigo* really dissolves; it cannot indeed be expected that it should, from the process by which it is obtained.

"*Indigo* requires an equal quantity or more of fixed alkaline salt, to render it totally soluble in water. On digesting the *indigo*, with a gentle heat, in the solution of the alkaline salt, a shining copper-coloured skin begins to appear, and gradually covers the whole surface: on agitating the matter, a large blue flower or froth arises, and the liquor underneath appears of a deep green. If woollen cloth, without any other preparation than moistening it with warm water, be dipped in this hot liquor, it comes out perfectly green, and changes, almost instantly, in the air to a fine blue. This is the common process of dying blue.

"Mr. Hellot describes two *indigo* vats with urine; one of which is used hot like the foregoing, and the other cold. The hot vat consists

of equal parts of *indigo*, alum, and tartar, digested in wine till the liquor becomes green. The cold one is prepared, by digesting powdered *indigo*, with vinegar for twenty-four hours, in the proportion of four pounds to about three quarts; then mixing the matter with about fifty gallons of urine, and stirring the whole together every night and morning, till the liquor turns green, and gathers a head like the common vat.

"*Indigo* is fitted for printing on linen, by diluting it with water into the consistence of a syrup; then adding some powdered pearl-ashes, green vitriol, and lime newly slaked, with so much water, occasionally, as will reduce them into the consistence of thin paint; mixing the whole thoroughly together, and stirring the matter every now and then, till it gains a copper colour on the surface. The proportions used by the workmen are, two parts of *indigo*, one of pearl-ashes, three of vitriol, and two of lime. The same composition, diluted with a sufficient quantity of water (about six gallons to a pound of *indigo*), and boiled, gives a durable blue to tanned skins, whether kept in hot or cold.

Indigo digested in a moderate heat with different volatile alkaline spirits, gave only yellowish and brownish-red tinctures; with rectified spirits of wine, a reddish one; to lime-water and to water acidulated with the vitriolic nitrous, and marine acids, it gave no tincture at all."

"The concentrated vitriolic acid unites with it into a smooth paste especially if the *indigo* is previously well-ground with powdered glass, sand, or other like substances. The *indigo* is thus rendered soluble in boiling water along with the acid, so as to pass through the pores of a filter; the solution, whilst hot, appears of a deep bright green colour, like that

that made by fixed alkalies, but fades as it grows cold, and changes at last to a brownish. These experiments, which were many times repeated with the same event, seem to overturn Mr Hellot's ingenious theory, which deduces the green colour of solutions of *indigo* from the common property of blue juices being turned green by alkalies; and the blue colour which the cloth acquires soon after it is taken out of the vat, from a separation of the alkali. We here find, that a green solution of this concrete is obtainable by the strongest of the acids, and that with soluble alkalies it discovers no tendency to greenness *Chamb Dict.*

23. NEEL JUMBOO OR BYSACKHEE . . . II.

VIDE No 22.

This is a produce of the intermediate period of the *Khureef* and *Rubee* harvests. It is sown in soil whence Wheat, Barley and Grain have been reaped. The land does not require much ploughing, but is merely levelled with the hoe. The fields are watered until the plants shoot forth, when the rains are looked for, but should this expectation be disappointed, recourse is again had to irrigation to prevent the plants being destroyed by a species of insect called *Doorie* or grub which gets into the root and destroys them entirely. When this Indigo is sown in land whence the *Khureef* crops have been reaped, the course of ploughing &c is as mentioned in the Table — NEEL JUMBOO similar to ASAPHOO lasts for three successive seasons or years if not injured by the frost or the grub. The process of manufacture is exactly similar to that mentioned for ASAPHOO.

21. NEEL T, HOOT, HEE. H.

VIDE No. 22.

The roots shooting out of Asannoo and Jumuoo in the 2d and 1 years successively are known by this name. The produce is less in consequence of its being of a secondary growth. Should it be injured by frost, the land is used for the cultivation of other grain.

25. OOK, HAN. GUN. H.

NYSHUKUN. P. QUSUN-ODS-SOOKKUN. A.

SUGARCANE. E. SACCHARUM-OFFICINAM.

Natural order, Gramina. A genus of the Triandria Digynia class.

The land for the cultivation of Oook is always chosen from such as have yielded *Khurzf* and *Rubee* harvests in the preceding year, and after the first operation of tillage is lain fallow until the month of Poose, and is called *Pundree*. Between the months of Poose, Mag, and Phagoon the *Pundree* land is again ploughed twice, being previously rendered moist by watering should there have been no rain; then, layers of *Sugarcane*s of about a cubit's length are sown in rows and the fields harrowed. On their sprouting out they are watered: but should no signs of vegetation appear as expected, continued recourse must be had to irrigation until the canes shoot out. *Sugarcane*s are known to have arrived at maturity by the juice becoming sweet and viscous.—Like cotton the *Sugarcane*s are soon affected by drought; in such a case they are cut down and expressed in *Ag, hun*.—Those planted in *Bysak, h* in Gram and

Dhan

Dian lands are less productive.—By the following process the juice is expressed. The canes being cut into pieces of a span's length are thrown into a mill (made either of stone or wood) which is turned by bullocks, and, as the juice is expressed, a person keeps feeding the mill with fresh pieces. The juice is then put into an iron *Kurhae* or caldron, and boiled, until it reaches to a proper degree of consistence, when it is suffered to cool gradually and congeal. In this state it is called *Goor* or *Jagry*. In the preparation of sugar, the juice is only boiled to such a consistence, neither too thick nor too thin, as will easily admit of granulation, and is denominated *Rab* or *Muscovado*. *Rab* is then by other processes clarified and made into candy, loaf sugar &c.

Six labourers are sufficient for the different operations of expression and boiling at one mill which is capable of expressing in one day a fifth part of the produce of one Beegah. Each labourer is paid by a quarter *Ser* of grain for every hundred canes with which he feeds the mill, each cane being cut into 10 or 12 peices.

"*Sugarcane* layers intended for planting, are preserved by being buried in marshy ground and the surface covered with cow-dung, whence they are taken out in the sowing season.

The root of this plant is jointed like those of the other sorts of canes and reeds, from which arise four, five, or more shoots, according to the age or strength of the root; these grow from eight or ten to twenty feet high, according to the richness of the ground; but those of middling growth are best.

"The canes are also jointed, and the lengths well as the size of the joints depend upon the weather and the soil, at each joint are placed leaves, the lower part of which embraces the stalk or cane to the next joint above their insertion, before they expand. The first joint, which comes out either at the third, fourth, or fifth month, according to the season and soil, always keeps in its first place near the earth, out of this comes the second, and out of second a third, &c. each week producing its joint, or very nearly, and a corresponding leaf likewise drying and falling off nearly every week.

"A cane of thirty-two joints, which is fit to be cut, has from five to twenty eight of them which have lost their leaves, the next five or six still have them in a withered state and ready to fall off, and the remaining joints surrounded with green leaves, from the head, which is cut off after the last leaf has withered. In a cane, whose length is from seven to nine feet, and which grows in a new or a very moist and favourable soil the number of useful joints is between forty, and fifty, the first above the ground generally appearing at the end of three months, or with frequent showers a fortnight sooner, and many canes in such a soil are round rotten or almost dried up at the end of thirteen months in a good soil, favourably exposed, well drained, and worked for a number of years, canes not shorter than four feet and a half have thirty-eight or forty joints, the first joint appearing about the fourth or middle of the third month and many canes that have been cut in such a soil at the end of fourteen or fifteen months being found rotted or dried in a dry but good soil, not manured, but well worked and seconded by the season, the canes

have

have been from three to four feet long, and have had from thirty to thirty-four joints; the first joint coming out at the end of four or four months and a half, and canes of this kind have been found standing at the end of fifteen months, but very dry, and sometimes a little changed. in a soil which is still drier and more parched, canes which have been about two feet high have from twenty-four to twenty-eight joints, the first of which appears at the end of the fifth month, and many of these canes have been dried at the end of fifteen months. From these and similar observations on the growth of canes in various kinds of soil, it has been inferred, that if there be any in which they can exist till the fifteenth or sixteenth month, they never grow to any kind of purpose in any after the thirteenth, or even after the twelfth. A deep soil and light are most suitable to the *sugarcane*, and the rainy season is the proper time for planting it: the sooner they are planted after the rains begin to fall, the more time they have to get strength before the dry weather sets in.

“ If the ground is proper for the *sugar-canes*, they are planted at a good distance from each other, and the land is carefully managed by changing the crops to other species, or allowing a fallow to rest and recover itself, the same plantation, says Mr Miller, may be continued above twenty years without replanting, and produce good crops the whole time whereas in the common method, they are generally replanted in six or seven years, and in some of the poor land they are continued but two or three years. The canes are propagated by cuttings or joints of proper lengths, from fifteen to twenty inches, in proportion to the

the nearness of the joints; which are generally taken from tops of the canes, just below the leaves: but Mr. Miller says, that if they were chosen from the lower part, where they are less succulent and better ripened, they would not produce canes so luxuriant, but their juice would be less crude, and contain a greater quantity of salts, which would be obtained by less boiling than that of those commonly planted. However, Mr. Cazaud, a late writer, and a planter of *sugar canes*, observes, that the upper part, commonly called the head, is the best part that can be used for propagating them: and he recommends to put the plant in the ground as soon as it is cut. The distance, which the canes are usually allowed in planting is from three to four feet, row from row; and the hills are about two feet asunder in the rows, in each of which hills they plant from four to seven or eight cuttings; instead of which number, productive often of blights, Mr. Miller is of opinion, that if one good cutting were planted in each hill, or two at most; and if both succeeded, the weakest were drawn out soon after they had taken, blights would be prevented, and the quantity of *sugar* would be still as great, and require little more than a fourth part of the fuel to boil it. In the proper season for planting, the ground should be marked out by a line, that the rows of canes may be straight and at equal distances: and the whole should be divided into pieces of sixty or seventy feet broad, leaving intervals between each of about twenty feet, for the convenience of passage, and for the admission of the sun and air between the canes.

The common method of planting the canes now practised, is to make a trench with the hoe, which is performed by the hand; into this a

"The time for cutting them is usually after twelve or fifteen months growth, but this varies according to the soil and the season. Those which are cut towards the end of the dry season before the rains begin to fall, produce better sugar, than those cut in the rainy seasons when they are more replete with watery juice and require a greater expence of fuel to boil it.

In those plantations where the number of negroes is small, sugar is made in almost all seasons indifferently, and consequently the canes are planted when the planter is best prepared for his work, rather than at the most advantageous time. The system of cultivation among planters, who are better supplied in respect of labourers, consists in planting a fourth or a fifth of their land in October, November, and December; in digging very deep trenches for the greater nourishment of the root; in planting at great distances, for the benefit of a free circulation of the air; and in cutting the canes in the four finest months, viz. February, March, April, and May, because the sugar is then the finest, the canes are cut with the least trouble, and supply (as is supposed) greater quantities of it. Those who adopt this method, cut about three fourths of their plantations, the remainder being made up of young canes, to be cut the following year, and for new plants.

"Mr. Cazaud, who has many judicious observations and experiments on the cultivation of the sugar-cane, has adopted a new method. He employs the whole of the six first months of the business of the year in the business of the crop, and in May and June plants the canes which

have been cut in January. This of course induces a necessity of cutting the rations (or the canes, proceeding from the old stumps) at the end of the eleventh instead of the end of the twelfth; and the planted canes, which should stand fifteen months, at the end of the year; so that the whole plantation is cut every year; and he only plants a sixth part of his land every year. He has largely illustrated the reasons and advantages of this method; the fundamental principle of which is the necessity of planting the canes in the only season fitted to accelerate and preserve them, as in the windward islands the weather is commonly dry from the fifteenth of February to the fifteenth of May, and the rains are moderate till August, and copious the two or three following months, and afterwards decrease till February; and therefore the progression of the rain keeps pace, as it were, with that of the canes, when they are planted in May. With regard to the maturity of the cane, as far it is of consequence to the sugar, this he says, does not depend on the age but on the season. In February, March, and April, all the canes, whatever be their age, are as ripe as the nature of the soil ever allows them to be, accordingly he never fails to make the greatest part of this sugar at this season. He observes, that the dryness of the weather (and not the age of the canes) which increases from January to April, is the cause, that in January four hundred gallons of juice commonly yield forty-eight gallons of sugar and molasses one with another; in February from fifty-six to sixty-four; in March from sixty-four to seventy-two; in April sometimes eighty; after which period the sugar ferments, and even burns when the refiner is not very expert at his business. The greatest relative

five maturity of his canes, he infers to be, when the juice of them was made up of four parts water, and one part of sugar and molasses: and in canes perfectly ripe, the quantity of sugar, he says, is equal to that of molasses. After a trial of this plan for five years, he is convinced, that there is a difference of above one sixth in its favour. *Miller's Gard. Dict. Phil. Trans. vol. lxi. p. 207, &c.*

The juice which is collected is conveyed to iron boilers, where it is boiled, with the addition of a quantity of quick-lime, and the impurities which rise to the surface are skimmed off. The boiling is continued till it acquires the consistence of syrup, after which it is put into shallow vessels, where it is allowed to cool and granulate. In general it is afterwards put into hogsheads, in which it is imported to Europe, the bottoms of which are perforated, that the molasses, with which the sugar is mixed may be allowed to drain off. Sometimes it is put into conical earthen vessels, open at both ends, the base of which is covered with moist clay, so that the water filters through the sugar, and carries with it a greater quantity of the molasses and other impurities. The sugar thus treated is called clayed sugar. It is not different from the former, but in being somewhat purer. The addition of quick-lime in the boiling is supposed to take up some vegetable acids which prevent the granulation of the sugar. In this state the sugar is known in commerce by the name of raw or Muscovado sugar. It is still further purified by dissolving it in water, and boiling, when the impurities, which on the surface, are again removed; a quantity of lime is also added,

and it is clarified with blood. When boiled down to a proper consistency, it is put into unglazed earthen vessels of a conical shape, and inverted, to allow the water from the moist clay, with which the base of the cone is covered, to pass through the sugar, and carry off its impurities.

According to the number of processes to which it has been subjected, it is called single or double refined sugar. Sugar in this state is of a white colour; it is well known for its sweet taste; it has little or no smell. It has some degree of transparency when it is crystallized. It is considerably hard, but it is brittle, and may be easily reduced to powder. It is phosphorescent in the dark. When the solution of sugar in water is concentrated, it crystallizes in the form of six-sided prisms, terminated by two-sided summits. The specific gravity of sugar is 1.4. When sugar is exposed to heat, it melts, swells up, becomes of a dark brown or black colour, emits air-bubbles with a peculiar smell, which has been called caramel. If a red heat be applied, it suddenly bursts into flames, with a kind of explosion. It is very soluble in water; at so low a temperature as 48°, water dissolves its own weight of sugar. This power increases with the temperature of the water. When water is saturated with sugar, it is called syrup, which by concentration and rest affords crystals. Sugar is soluble in many of the acids. It is decomposed by sulphuric acid; when heat is applied, the acid itself is decomposed, and converted into sulphurous acid; and a great quantity of charcoal is deposited. Nitric acid acts on sugar with considerable violence; an effe-

rescence is produced, nitrous gas is emitted, and the sugar is converted into oxalic acids. Muriatic acid gas is slowly absorbed by sugar, which becomes of a brown colour, and acquires a very strong smell. Sugar is instantly dissolved when it is thrown in the state of powder into liquid oxymuriatic acid, it is converted into malic acid, while the oxymuriatic acid is deprived of its oxygen, and reduced to the state of muriatic acid. Alcohol readily dissolves sugar. One part of sugar is soluble in four of boiling alcohol. Sugar also combines with the oils, and by this means they may be mixed with water. The fixed alkalis combine with sugar, and deprive it of its sweet taste; but by adding sulphuric acid, and precipitating the sulphate which is formed by means of alcohol, the taste is restored. Some of the earths, as lime, combine with sugar, and form similar compounds. The sulphurets and phosphurets of the alkalis, and some of the earths, decompose sugar, and reduce it to a state somewhat similar to gum. By distilling sugar in a retort, the first part of the product is water, nearly in a state of purity. Acetic acid with a little oil next comes over, and afterwards empyreumatic. A bulky carbonaceous matter, which sometimes contains a little lime, remains behind. Mr. Cruickshank obtained, by the distillation of 480 grains of pure sugar, by means of a red heat,

	57s.
Acetic acid and oil.....	270
Charcoal.....	120
Carbonated	

Carbonated hydrogen and }
 carbonic acid gases. }

100

Sugar, therefore, is composed of oxygen, carbon, and hydrogen.

The proportions of its constituent parts, according to Lavoisier, are the following:

Oxygen..... 64

Carbon..... 28

Hydrogen..... 8

100

The uses of sugar are so familiar, that it is scarcely necessary to enumerate them. In most countries, where it can be obtained, it may be considered in some measure as a necessary of life. It contains a great proportion of nutritious matter; animals, when partially supplied with it, become fat and vigorous. It is not changed by the action of the air, so that it may be preserved for any length of time. It is employed to preserve other vegetable matters from putrefaction, and sometimes it is also advantageously applied to a similar purpose, in the preservation of animal substances. It is used likewise in the composition of some varnishes, of ink, and of some pigments, to communicate to them a degree of gloss or lustre." *Nich. Ency.*

26. OOK, H PEREE ...¹ ...² ...³ ...⁴ ...⁵ ...⁶ ...⁷ ...⁸ ...⁹ ...¹⁰ ...¹¹ ...¹² ...¹³ ...¹⁴ ...¹⁵ ...¹⁶ ...¹⁷ ...¹⁸ ...¹⁹ ...²⁰ ...²¹ ...²² ...²³ ...²⁴ ...²⁵ ...²⁶ ...²⁷ ...²⁸ ...²⁹ ...³⁰ ...³¹ ...³² ...³³ ...³⁴ ...³⁵ ...³⁶ ...³⁷ ...³⁸ ...³⁹ ...⁴⁰ ...⁴¹ ...⁴² ...⁴³ ...⁴⁴ ...⁴⁵ ...⁴⁶ ...⁴⁷ ...⁴⁸ ...⁴⁹ ...⁵⁰ ...⁵¹ ...⁵² ...⁵³ ...⁵⁴ ...⁵⁵ ...⁵⁶ ...⁵⁷ ...⁵⁸ ...⁵⁹ ...⁶⁰ ...⁶¹ ...⁶² ...⁶³ ...⁶⁴ ...⁶⁵ ...⁶⁶ ...⁶⁷ ...⁶⁸ ...⁶⁹ ...⁷⁰ ...⁷¹ ...⁷² ...⁷³ ...⁷⁴ ...⁷⁵ ...⁷⁶ ...⁷⁷ ...⁷⁸ ...⁷⁹ ...⁸⁰ ...⁸¹ ...⁸² ...⁸³ ...⁸⁴ ...⁸⁵ ...⁸⁶ ...⁸⁷ ...⁸⁸ ...⁸⁹ ...⁹⁰ ...⁹¹ ...⁹² ...⁹³ ...⁹⁴ ...⁹⁵ ...⁹⁶ ...⁹⁷ ...⁹⁸ ...⁹⁹ ...¹⁰⁰ ...¹⁰¹ ...¹⁰² ...¹⁰³ ...¹⁰⁴ ...¹⁰⁵ ...¹⁰⁶ ...¹⁰⁷ ...¹⁰⁸ ...¹⁰⁹ ...¹¹⁰ ...¹¹¹ ...¹¹² ...¹¹³ ...¹¹⁴ ...¹¹⁵ ...¹¹⁶ ...¹¹⁷ ...¹¹⁸ ...¹¹⁹ ...¹²⁰ ...¹²¹ ...¹²² ...¹²³ ...¹²⁴ ...¹²⁵ ...¹²⁶ ...¹²⁷ ...¹²⁸ ...¹²⁹ ...¹³⁰ ...¹³¹ ...¹³² ...¹³³ ...¹³⁴ ...¹³⁵ ...¹³⁶ ...¹³⁷ ...¹³⁸ ...¹³⁹ ...¹⁴⁰ ...¹⁴¹ ...¹⁴² ...¹⁴³ ...¹⁴⁴ ...¹⁴⁵ ...¹⁴⁶ ...¹⁴⁷ ...¹⁴⁸ ...¹⁴⁹ ...¹⁵⁰ ...¹⁵¹ ...¹⁵² ...¹⁵³ ...¹⁵⁴ ...¹⁵⁵ ...¹⁵⁶ ...¹⁵⁷ ...¹⁵⁸ ...¹⁵⁹ ...¹⁶⁰ ...¹⁶¹ ...¹⁶² ...¹⁶³ ...¹⁶⁴ ...¹⁶⁵ ...¹⁶⁶ ...¹⁶⁷ ...¹⁶⁸ ...¹⁶⁹ ...¹⁷⁰ ...¹⁷¹ ...¹⁷² ...¹⁷³ ...¹⁷⁴ ...¹⁷⁵ ...¹⁷⁶ ...¹⁷⁷ ...¹⁷⁸ ...¹⁷⁹ ...¹⁸⁰ ...¹⁸¹ ...¹⁸² ...¹⁸³ ...¹⁸⁴ ...¹⁸⁵ ...¹⁸⁶ ...¹⁸⁷ ...¹⁸⁸ ...¹⁸⁹ ...¹⁹⁰ ...¹⁹¹ ...¹⁹² ...¹⁹³ ...¹⁹⁴ ...¹⁹⁵ ...¹⁹⁶ ...¹⁹⁷ ...¹⁹⁸ ...¹⁹⁹ ...²⁰⁰ ...²⁰¹ ...²⁰² ...²⁰³ ...²⁰⁴ ...²⁰⁵ ...²⁰⁶ ...²⁰⁷ ...²⁰⁸ ...²⁰⁹ ...²¹⁰ ...²¹¹ ...²¹² ...²¹³ ...²¹⁴ ...²¹⁵ ...²¹⁶ ...²¹⁷ ...²¹⁸ ...²¹⁹ ...²²⁰ ...²²¹ ...²²² ...²²³ ...²²⁴ ...²²⁵ ...²²⁶ ...²²⁷ ...²²⁸ ...²²⁹ ...²³⁰ ...²³¹ ...²³² ...²³³ ...²³⁴ ...²³⁵ ...²³⁶ ...²³⁷ ...²³⁸ ...²³⁹ ...²⁴⁰ ...²⁴¹ ...²⁴² ...²⁴³ ...²⁴⁴ ...²⁴⁵ ...²⁴⁶ ...²⁴⁷ ...²⁴⁸ ...²⁴⁹ ...²⁵⁰ ...²⁵¹ ...²⁵² ...²⁵³ ...²⁵⁴ ...²⁵⁵ ...²⁵⁶ ...²⁵⁷ ...²⁵⁸ ...²⁵⁹ ...²⁶⁰ ...²⁶¹ ...²⁶² ...²⁶³ ...²⁶⁴ ...²⁶⁵ ...²⁶⁶ ...²⁶⁷ ...²⁶⁸ ...²⁶⁹ ...²⁷⁰ ...²⁷¹ ...²⁷² ...²⁷³ ...²⁷⁴ ...²⁷⁵ ...²⁷⁶ ...²⁷⁷ ...²⁷⁸ ...²⁷⁹ ...²⁸⁰ ...²⁸¹ ...²⁸² ...²⁸³ ...²⁸⁴ ...²⁸⁵ ...²⁸⁶ ...²⁸⁷ ...²⁸⁸ ...²⁸⁹ ...²⁹⁰ ...²⁹¹ ...²⁹² ...²⁹³ ...²⁹⁴ ...²⁹⁵ ...²⁹⁶ ...²⁹⁷ ...²⁹⁸ ...²⁹⁹ ...³⁰⁰ ...³⁰¹ ...³⁰² ...³⁰³ ...³⁰⁴ ...³⁰⁵ ...³⁰⁶ ...³⁰⁷ ...³⁰⁸ ...³⁰⁹ ...³¹⁰ ...³¹¹ ...³¹² ...³¹³ ...³¹⁴ ...³¹⁵ ...³¹⁶ ...³¹⁷ ...³¹⁸ ...³¹⁹ ...³²⁰ ...³²¹ ...³²² ...³²³ ...³²⁴ ...³²⁵ ...³²⁶ ...³²⁷ ...³²⁸ ...³²⁹ ...³³⁰ ...³³¹ ...³³² ...³³³ ...³³⁴ ...³³⁵ ...³³⁶ ...³³⁷ ...³³⁸ ...³³⁹ ...³⁴⁰ ...³⁴¹ ...³⁴² ...³⁴³ ...³⁴⁴ ...³⁴⁵ ...³⁴⁶ ...³⁴⁷ ...³⁴⁸ ...³⁴⁹ ...³⁵⁰ ...³⁵¹ ...³⁵² ...³⁵³ ...³⁵⁴ ...³⁵⁵ ...³⁵⁶ ...³⁵⁷ ...³⁵⁸ ...³⁵⁹ ...³⁶⁰ ...³⁶¹ ...³⁶² ...³⁶³ ...³⁶⁴ ...³⁶⁵ ...³⁶⁶ ...³⁶⁷ ...³⁶⁸ ...³⁶⁹ ...³⁷⁰ ...³⁷¹ ...³⁷² ...³⁷³ ...³⁷⁴ ...³⁷⁵ ...³⁷⁶ ...³⁷⁷ ...³⁷⁸ ...³⁷⁹ ...³⁸⁰ ...³⁸¹ ...³⁸² ...³⁸³ ...³⁸⁴ ...³⁸⁵ ...³⁸⁶ ...³⁸⁷ ...³⁸⁸ ...³⁸⁹ ...³⁹⁰ ...³⁹¹ ...³⁹² ...³⁹³ ...³⁹⁴ ...³⁹⁵ ...³⁹⁶ ...³⁹⁷ ...³⁹⁸ ...³⁹⁹ ...⁴⁰⁰ ...⁴⁰¹ ...⁴⁰² ...⁴⁰³ ...⁴⁰⁴ ...⁴⁰⁵ ...⁴⁰⁶ ...⁴⁰⁷ ...⁴⁰⁸ ...⁴⁰⁹ ...⁴¹⁰ ...⁴¹¹ ...⁴¹² ...⁴¹³ ...⁴¹⁴ ...⁴¹⁵ ...⁴¹⁶ ...⁴¹⁷ ...⁴¹⁸ ...⁴¹⁹ ...

VIDE No. 25.

This springs up and grows from the root of the *Sugarcanes* already cut, and commences shooting forth in the beginning of *Phagoon*, when the fields are watered and hoed. This cane being of a secondary produce from the remains of the first, is, in consequence, less productive. In the *Turac* or low marshy lands it yields more than in any other soil.—The processes of expression and boiling are the same, as in the preceding No.

27. PUTSUN²... H... HEMP... E.

CANNABIS. L. CHENOP. F.

Natural order Scabidæ. A genus of the Diœcia

Pentandria class and order,

This is sown around the borders of the JOAR and BARRA fields, but it may however be cultivated upon ground of every description, the poorer land producing that which is finer in quality though less in quantity, whereas rich land produces in greater abundance, but of a coarser kind. If the ground however be well manured, it may be used in the cultivation of the Pursue for many successive years.—When the plants arrive at maturity they are pulled and made up into bundles and steeped in water for the purpose of *reeding* which is to separate the bark (which is the hemp) from the reed or woody part.—After it is *reeded* it is then freed from the mucilaginous water with which it still abounds by pouring water through it and squeezing out the liquid after every emission, taking care that the threads do not twist or entangle with each other.

After

After this, it is dried and brought to use. In this country hemp is only used in making cordage and a kind of very coarse canvas called *Taut*.

The idea of planting Pursun around other fields, perhaps, originates in the property which this plant possesses in driving off all insects that feed upon other vegetables.

Miller ascribes to the seed of hemp, if boiled in milk till it cracks, the virtue of curing long standing coughs, and a specific for the jaundice. Dr. Boerhaave says that in his days the hemp seed stamped and taken in white wine was highly commended as a remedy for the jaundice and complaints of the liver. The juice of the green plant is considered useful in mitigating internal pains of the ear. The leaves and the flowers are likewise used as a vegetable, and oil is expressed of the seed.

28. PULWUL.

Originally transplanted from Bengal, sown in Kamul land, a very delicious vegetable; the leaves are said to possess some medicinal property, used in decoction given in high fevers.

29. PAN.

Sown in Kamul land, and protected by screens made of bamboos &c. from the effect of the weather. This is a very delicate plant, and is cultivated merely for its leaves, which has a very fine aromatic scent of

a pungent taste. Both the leaves and roots contain various medicinal properties.—The root is distinguished by the name of *Kooteehjün*.

30. P. HOOT.....H.

A species of Melon. It is sown in sandy soil along with KUPAS.

31. SUN.....H.....HEMP (A KIND OF).....E

VIDE (No. 27.)
Sown in all kinds of land of the past year's cultivation. It is pulled and reeded similarly to PUTSOV.

32. TUMAKOO KATKEE.....P.

BUJIRBHANG.....H.....TOOMBAC.....A.

TOOMBAC.....A.....TOBACCO.....E.

TABAC.....F.....NICOTIANA TABACUM.....L.

Natural order *Luridæ*. A genus of the *Pentandria Monogynia* class.

This is sown in *Kuchheena*, *Bara*, *Kamil* and *Chakee* lands, first in a small tract, and when it has attained sufficient growth and strength it is transplanted into other fields prepared for the reception of the plants, and immediately watered. Irrigation afterwards becomes necessary, if there be a scarcity of rain. On the leaves turning yellow, they are cut and tied up in bundles of 2 *Sers* each, and dried in the sun. The gratification which human ingenuity has extracted from this vegetable is various.

Ancient

Ancient writers have ascribed to this plant so many wonderful medicinal virtues that it is impossible to name a distemper for which tobacco was not mentioned by them a remedy. Burns, scalds, poisons, dropsy, agues, complaints of the head, breast, lungs, &c. were to be cured by this vegetable.

Lord Bacon says: "Tobacco comforteth the spirits and dischargeth weariness; which it worketh partly by opening, but chiefly by the opiate virtue which condenseth the spirits." Phillips, when he sang the Gifts of Pomona, has thus written in praise of this narcotic herb.

"The Indian weed unknown to ancient times;

"Nature's choice gift, whose acrimonious fumes

"Extracts superfluous juices, and refines

"The blood distemper'd from its noxious salts;

"Friend to the spirits, which with vapours bland

"It gently mitigates, companion fit

"Of pleasantry, and wine; not to the bard;

"Unfriendly, when they to the local shell

"Warble melodious their well-labour'd song."

Locke, says: "Bread or Tobacco may be neglected; but reason at first recommends their trial, and custom makes them pleasant."

Dr. Fowler of Staffordshire says, "that tobacco, under proper regulation may be administered internally, not only as a safe but an efficacious remedy, especially as a diuretic in cases of dropsy, and dysury seems certain."

The internal use of Tobacco however is only safe when administered by a proper physician. Externally it is used in lotions and unguents for destroying cutaneous insects, cleansing foul ulcers, &c.

This plant however is most commonly used as a sternutatory when taken by way of snuff, as a masticatory, for chewing in the mouth, and as an effluvia by smoking it. The tobacco ashes are said to form a good dentifrice and corrective of putrid disposition in the gums.

Dr. Fowler observes that "in *Odontalgia*, or *Tooth-ach*, the smoking of a segar has imparted considerable relief. A piece of lint, impregnated with the expressed juice of tobacco, has often in some instances, acted as a charming mitigating the violence of the tooth-ach. The oil of tobacco, dropped on a piece of cotton, of sufficient magnitude to occupy the concavity of the affected tooth, has proved almost instantaneous in its relief. It must here be remarked that this remedy should not be adopted by persons unaccustomed to the use of tobacco, as the oil is extremely nauseous, and will often times induce vomiting."

"Tobacco is either taken by way of snuff, as a sternutatory, or as a masticatory by chewing it in the mouth, or by smoking it in a pipe."

"It is sometimes also taken in little longish pellets put up the nose, where it is found to produce very good effects, to attract a deal of water or pituita, unload the head, resolve catarrhs, and make a free respiration; for the subtle parts of the tobacco, in inspiration, are carried into the trachea and lungs, where they loosen the peccant humours adhering thereto, and promote expectoration. Some have left this tobacco in their noses all night; but this is found to occasion vomiting usually on the next morning. Another thing charged on this way of application, is, that it weakens the sight."

"Tobacco"

"Tobacco is held a first rate narcotic or opiate. When taken in great quantities in the way of snuff, it is found to prejudice the smelling; it also greatly diminishes the appetite, and in time often gives rise to a phthisis.

"That, taken in the way of smoke, often also dries and damages the brain. Borrii, in a letter to Bartholinæ, mentions a person who, through excess of smoking, had dried his brain to that degree, that after his death, there was nothing found in his skull but a little black lump, consisting of mere membranes.

"The leaves of tobacco have a strong disagreeable smell; and very acrid burning taste: distilled in a retort, without addition, they yield an acrid empyreumatic, poisonous oil. They give out their acrid matter both to water and spirit, but most perfectly to the latter: the aqueous infusions are of a yellow, or brown colour, the spirituous of a deep green.

"Tobacco, taken internally, even in a small dose, or decoctions of it used as a clyster, prove virulently cathartic and emetic, occasioning extreme anxiety, vertigoes, stupors, and disorders of the senses: some have, nevertheless, ventured upon it both as an evacuant, and, in smaller quantities, as an aperient and alterant, in epilepsies and other obstinate chronical disorders; a practice, which, though in some cases it may have been successful, appears much too hazardous to be followed, particularly in the more irritable, hot, dry, and bilious constitutions. By long boiling in water, its deleterious power is abated, and at length destroyed: W w an

an extract made by long decoction is recommended by Stahl and other German physicians, as the most effectual and safe aperient, expectorant, diuretic, &c. but the medicine must necessarily be precarious in strength, and has never come into use among us." *Lewis' Mat. Med.*

"A strong decoction of the stalks, with sharp-pointed dock, and alum, is said to be of good service, used externally, in cutaneous distempers, especially the itch; some boil them for that purpose in urine. The same decoction is said to be infallible in curing the mange in dogs.

"Tobacco beat into a mash with vinegar or brandy, and laid on the stomach, has sometimes good effects in removing hard tumors of the hypochondria.

Some caution, however, Dr. Lewis observes, is requisite even in the external uses of tobacco, particularly in solutions of continuity; there are instances of its being thus transmitted into the blood, so as to produce violent effects.

"A drop or two of the chemical oil of tobacco being put on the tongue of a cat, produces violent convulsions, and death itself in the space of a minute; yet the same oil, used in lint, and applied to the teeth, has been found of service in the tooth-ach; though it must be to those that have been used to the taking of tobacco, otherwise great sickness, reaching, vomiting, &c. happen; and even in no case is the internal use of it warranted by ordinary practice. See experiments on the effects of oil of tobacco, on pigeons, by Mr. Fontana, in which he found vomiting to be a constant effect of this poison, as he calls it, and the loss of motion

in the part to which it is applied an occasional or accidental effect, in
 Phil. Trans. vol. lxx. part 1. append. n. 38, or Fontana's sur les Poisons,
 &c. Florence, quarto."

SS. BYGUN. H. BHANTA. H.
 BADINGAN. P. BADINJAN. A.
 BRINJAL. V. THE LOG PLANT. E.
 MELONGENA. L. BRINJELÉ. F.

Natural order Luridæ. A Genus of the Pontandria Mono-
gynia class.

This is sown in Kamil land. The fruit of it is only used in culi-
 nary purposes. It is considered of a heating quality.

Linan says they are an agreeable food, and accounted to be
 aphrodisiac, and to cure sterility: when boiled with wine and pepper,
 they taste like artichokes.

SS. BAQUILLA. A.
 A kind of Bean, sown in Kamil land. This bean is only used in
 culinary purposes and is said to be very flatulent.

SS. BUTHOOA. H. SURMUK. P.
 QUTUF. A. ORACH. E.
 ATRILEX HORTENSIS. L. ARROCHE. F.

A Genus of the Polygamia Monœcia class.

A culinary herb of spontaneous growth, and some times cultivated:
 The medicinal qualities of this herb are many.—The leaves, bruised, and
 applied

applied to parts in which thorns &c have plunged, extract them and cure the wound — If applied to the navel they dislodge and expel worms. "This herb is also used in mollifying clysters, and in such dressings as are intended to mitigate and allay pain — Its distilled water, mixed with aloe, stops hæmorrhages, and cures scald-heads. The seeds are purgative, but often act like an emetic."

36. CHUCHINDA.....H.

A kind of long cucumber sown in Kamil land.

37. CHUOLAE.....H.....SPINAGE.....E

SPINACH.....L.....SPINACIA.....L

EPINARDS.....F.....ISPANAJ.....E

ISPANUS.....P.....ISFANAH.....A.

Natural order Holoraceæ A Genus of the Diæcia Pentandria class

"Sown in Kamil land. This is a pot herb of considerable use in the kitchen. If eaten freely, it is laxative, diuretic and cooling. Boethaave says that, the fresh herb affords a thick and wholesome juice, which mitigates the asperity of the lungs, and is of good use in inflammations of the stomach."

38. CHOOQUNDUR.....P.....CHOOCHUNDUR...P.

SILQ.....A.....BEETROOT.....E.

BETA.....L.....BEETRAVE.....P.

Natural

*Natural order, Holoraceæ. A genus of the Pentandria Di-
gyna class*

Sown in *Kamil* land. The roots are generally eaten with salad, but is said to be prejudicial to the stomach, and not at all nutritious. The root and leaves are considered to be a powerful emetic, causing a discharge of mucus, and thereby relieving the head ach. Sugar is extracted from the root by the different processes of expression, filtration, evaporation, and crystallization.

59. CHOOKA.....H TOORSHEH.....P
HUMMAZA.....TAMIR (THE FLOWER), A.
SORREL.....E.....ACETOSA OR OXALIS....L.
OSEILLEF. H (180, 181)
A SPECIES OF THE RUMEX.

*Natural order, Holoraceæ. A genus of the Hexandria Tri-
gynia class and order.*

Sown in *Kami* land. Various are the qualities that are ascribed to this pot herb.—Mention is made of it, by Pliny, Lord Bacon, Miller, Dale, Boerhaave, &c.

It is acid and cooling, grateful to the stomach, quenches thirst, allays the heat of the stomach, and is an excellent antiscorbutic. It tempers the circulation of the blood, and thickens or sweetens according to circumstances, it is said to be good in pestilential or intermitting fevers.

Dale considers Sorrel as one of the principal cardiacs and hepatics, resists putrefaction, creates an appetite, represses bile and allays thirst.

A whole volume could be filled in delineating the virtues of this herb, and innumerable unquestionable authorities asserted to support the fact; but it will be sufficient to mention here that, Boerhaave, Bartholin, in his Memoirs of Copenhagen, Drs. James and Quincy, Arbuthnot, the Rev. Mr. Hughes and various other authors, have duly appreciated the merits of this plant in a medicinal point of view.

40. DHENDUS. H. BHINDEE. H. RAM TOORULE. H. Gommo. F.

This is a sort of mucilaginous vegetable used in culinary purposes, and cultivated in Kamit land.

41. KUDOO (GOLE). H. SRETAP. HUL. H. QURUE. A. YUETEN. A. RAMKOLA. H. PUMPKIN or GOURD. E. CUCURBITA. L. CITROVILLE. F.

Natural order: Cucurbitaceae. A. Genus of the Monoecia

Syngenesia class

This is a culinary vegetable cultivated in Kamit land.

The seeds afford oil by expression; and when triturated with water, they yield a cooling and nutritive milk, and boiled into a jelly, they are

Reichstein to be a very efficacious remedy for curing a retention

42. K. HEERA:.....H.....BADI, U'G.....P.

QESAP AND QUSUD.....A.....CUCUMBER... E

CUCUMBS.....L.....CONCOMBRE.... F.

Natural order, *Cucurbitacea*, A genus of the *Monoclea*.

Syngenesia class.

This is planted in *Kamil* land, and is used in culinary purposes.

"Cucumbers are a salubrious cooling fruit, and may be safely allowed to consumptive patients; as they sweeten acrid humours, at the same time are gently laxative; but, being in a considerable degree acescent; and sometimes attended with flatulency and diarrhoea, such effects may be prevented, by eating them in great moderation; or with the addition of vinegar and pepper, which counteract their natural coldness. If properly pickled (without colouring them with that poisonous metal, copper, or rendering them too acrid with stimulant spices), they are an excellent antiseptic; yet we consider them highly improper, either for children or wet-nurses.

"The fly, which is often very destructive to cucumbers, melons, and pumpkins, may be killed by sprinkling a mixture of tobacco-water and red pepper over the vines.

"The seeds of melons and cucumbers are liable to run too vigorously to vine before they emit a single fruit. To prevent this, Dr. DARWIN advises to wash the seeds clean from their pulp before they are put away for preservation, and to keep them three or four years before they are sown. The experienced AMERENOVUR (Mr. Wess' Gardener), confirms the advice to plant seeds two, three, or four years old. See also McMAIR'S Gardening, 2 vols. octavo." *Dom. Ency.*

43. KURUM KULLA.....H.....KULUM.....P.

QUMREB.....A.....KOOHNOO.....A.

KURUMB.....A.....COLE COLEWORT

BRASSICA.....L.....ON COLEWORT

CHOU.....F.

Natural order, Cruciferae. A genus of the Tetradynamia

Siliquosa class.

This plant, which is cultivated in Kamil land, is improperly known by the name of *Cabbage*, which means the firm head or ball that is formed by the leaves turning close over each other; from that circumstance it is generally said, that the cole has cabbaged, the lettuce has cabbaged, or the tailor has cabbaged. This last cabbaging is mentioned thus in Arbuthnot's History of John Bull:—"your tailor instead of shreds, cabbages whole yards of cloth."

The ancients would appear to have been great admirers of this pot-herb.—Chrysippus, Dieuches, Pythagorus and Cato have written much in regard to the properties of colewort, and Columella thus writes of the universal use in which he had held this herb.

"That herb, which o'er the whole terrestrial globe

Doth flourish, and in great abundance yields

To low plebeian and the haughty king,

In winter cabbage, and green sprouts in spring."

The Greeks and the Romans both esteemed the colewort good to be eaten raw, to prevent the effects of excessive indulgence in wine; it was also thought to clear the brains of the intoxicated.

Many

Many of the ancients when they transplanted coles, put sea weeds under the roots, or else nitre powdered, as much as they could take up with three fingers, imagining that they would the sooner come to maturity; others threw trefoul and nitre mixed upon the leaves for the same purpose; it was thought to make them bold green.

Pliny observes,—“ If you would have very fine Coleworts, both for sweet taste and for great cabbage, first let the seed be sown in ground; thoroughly digged more than once or twice, and well manured; secondly, you must cut off the tender sprig and young stalks that seem to put out far from the ground, and such as run too high; thirdly, you must raise mould or manure up to them, so that there may be no more above the ground than the very top.”

Ancient authors have handed down to us the various uses, which they make of this plant in medicine, some of which we notice as a matter of curiosity, more than with a view of recommending these experiments.

The Greeks, as well as the Romans, used the juice of coleworts with honey as an eyesalve; they also made a liniment of this plant, which was used to assuage the swellings of women's breasts. A liniment was also made of cabbage and brimstone, which used to bring bruises to their natural colour, or prevent their turning black.

Phylitian recommended the juice with goat's milk, salt, and honey, for the cramp, or stiff necks.

Apollodorus says, that either the seed or the juice of this plant, taken in drink, is a good remedy for those who have eaten poisonous mushrooms.

Hippocrates recommended this vegetable to mothers who were nurses. Catu advises coleworts to be stamped raw with vinegar, rue, mint, and the roots of laser, as a cure for the head-ache; and many other complaints, not even omitting the good and safe cure of the head-ache. Erasistratus, and all his school, resounded again (says Pliny) with the praises of colewort, and averred, that there was nothing in the world better for the stomach, and nothing more wholesome for the sinews; they, therefore, prescribed it for the palsy, and all tremblings of the limbs; and those that fetch up blood,

All the species of cabbage are now generally supposed to be hard of digestion, to afford little nourishment, and to produce flatulencies,

They tend strongly to putrefaction, and run into this state sooner than almost any other vegetable; when putrified, their smell is likewise the most offensive, greatly resembling that of putrid animal substance. They are now out of use as medicine, although so much recommended by ancient writers;

Hoffman says, the common red cabbage is evidently possessed of a medical quality; and abounds with a juice, which, by its nitrous, sweet, laxative, aperitive, attenuating, and stimulating qualities, promotes those excretions which are absolutely necessary to the preservation of health.

For this, it is not only a preservative against diseases, especially of the chronic kind, but also contributes very considerably to their cure,

The

The juice of cabbage is of such a nature, says Dr. James, as not only to afford a sufficient supply of nourishment to the body, but also to correct the acrid salts of the juices, and allay the acrimony of the kidneys. For this reason cabbage is highly salutary in disorders of the breast, if baked in a close vessel in an oven, adding sugar or honey to it, after it is taken out; for by this means it will, in the space of half an hour, become a jelly, or thick juice, which, used as a lambative, is of singular efficacy in dry coughs, &c.

A decoction of cabbage, with an addition of raisins, was formerly much used by preachers and pleaders, in hoarseness, and defects of voice, arising from too long speaking.

The juice of cabbage is said to be a laxative, and the substance an astringent.

The use of this vegetable in food has been affirmed by some authors, to be good for dulness of sight, and tremblings of the limbs.

Simon Pauli tells us, that he knew a young girl, who, in the space of fourteen days, had an incredible number of warts taken off one of her hands, by anointing them with the juice of cabbage, which was allowed to dry on them.

From the nature of the organization of these plants, and the diversity of powers they possess, to receive nourishment in the superabundance which high cultivation affords them, they undergo more rapid changes than most plants; this is particularly observable in the species

called

called cauliflower, which, often in a few days branches from the principal stalk, with such force and numbers, as to form a solid head of snowy tender buds, which are afterwards forced to a considerable height before the blossoms open.

In the Economical Journal of France, the following method of guarding cabbages from the depredation of caterpillars, is stated to be infallible; and may, perhaps, be equally serviceable against those which infect other vegetables.

Sow a belt of hemp-seed round the borders of the ground where the cabbages are planted, and although the neighbourhood be infected with caterpillars, the space inclosed by the hemp will be perfectly free, and not one of these vermin will approach it. *Phil. Cul. Veg.*

44. KOBEE (P. HOOL) . . . H. . . . CAULIFLOWER E.

CHOU FLEUR F. . . . BRASSICA FLORIDA . . . L.

Vide No. 43.

This is also sown in Kamul land. Of all kind of Coleworts, this is the sweetest and the pleasantest to the taste although of no value in medicine as being hard of digestion and an enemy to the kidneys.

45. KAHOO P. . . . KHUSS A.

LETTUCE L. . . . LACTUCA L.

LAETUE F.

Natural

Natural order, Compositæ. A Genus of the Syngenesia Polygamia Æqualis class.

This is sown in *Kamil* land, and is used as a salad in culinary purposes.

Columella thus speaks of the qualities of this plant.

"And now let lettuce with its healthful sleep."

Make haste, which of a tedious long disease

The painful leathings cures"

Geraud says "Lettuce cooleth a hot stomake, called the heart-burning."

The young leaves of garden lettuce are emollient, cooling, and, in some small degree, laxative and aperient, easy of digestion but of little nourishment; salubrious in hot bilious indispositions, but less proper in cold phlegmatic temperaments. In some cases, they tend to promote sleep, by virtue of their refrigerating and demulcient quality. *Lexis.*

Galen says, "In the decline of age, which is naturally wakeful, I suffered very much by want of sleep; for which disorder, I used in the evening to eat a lettuce, which was my sovereign and only remedy. Many boil this tender herb in water, before it produces stalks; as I myself now do, since my teeth begin to fail me."

Dr. Aston tells us, that the milk of the common garden lettuce is hypnotic, while the root of the plant is cooling, diluent, and nourishing.

This plant is cooling, and causes an inclination to sleep, upon which account it procures ease in pains, both taken inwardly, and externally applied.

Schroder was of opinion, that it afforded considerable nourishment, and much increases milk when eaten by nurses.

The *Historia Plantarum* states, that no herb more powerfully resolves, and brings away the black bile.

Lettuces are said to render the chyle easily condited; and are recommended to young people on account of their cooling nature.

M. Bourgeois observes, that the different kinds of lettuce, although very good for persons of strong stomach and good digestion, are far very injurious to cold weak stomachs, as they pass undigested; they disagree very much with hypochondriac persons, and females who are troubled with hysterics.

Turned lettuce, when dried and put on the fire, or on hot coals, sparkles like nitre.

Young lettuce may be raised in forty-eight hours, by first steeping the seed in brandy, and then sowing it in a hot-house.

The seeds of this plant are of an emollient nature. *Phil. Cul. Veg.*

46 KUCHREE.....H.....DOSTUMBOYEHP.

DURDAB.....P.

Natural order, Cucurbitaceæ.

Sown with JOAN and BUN. A delicious sort of very small melon. It also grows wild.

47. LUOKEE H.

Vide. No 41

A species of round Pumpkin or Gourd, cultivated in *Kamil* land.

48. MOOLEL.....HTOORD.....P.

FOOJL.....A.....RADISH.....E.

RAPHANUSL.....RAVE.....F.

Natural order, Siliquosæ. A Genus of the Tetradynamia
Siliquosa class.

This is also sown in *Kamil* land, but the water with which the fields are irrigated would require to be brackish; the saline particle of such water adds greatly to the zest of this root.

Pliny observes that, radishes grow best in salt grounds, and therefore they are watered with brackish water, which, he says, is the cause that the radishes in Egypt are better and sweeter than any other in the world, for there they are bedewed and sprinkled with nitre.

It is stated by some of the Roman authors, that, if a hole be made in the ground with a large stick, and then filled up with chaff six fingers deep, and a seed be placed on it and covered with dung and mould, the root will grow so large as to fill up the hole.

Amatus relates, that he had seen some which would weigh sixty pounds, and Matthioli assures us that he had met with radishes of such an enormous size, that they weighed one hundred pounds each. We are informed, that the leaves were carefully taken off, in order to increase the size of the root.

It was said that radishes were the only cure for a phthisic (*phthisicke*) for ulcer of the lungs, which had settled deep. The experiment and proof of this were discovered in Egypt, by their causing dead bodies to be opened and anatomized, to ascertain the maladies of which men died.

The Romans admired radishes as a winter sauce to their meat; but it was observed, that they injure the teeth, and yet, says Pliny, they will polish ivory, which is the tooth of an elephant.

Radishes were considered good against poison. Nicander affirms that they are good for those who have eaten poisonous mushrooms. They were said to be a defence against the scorpion's venomous sting. The ancients relate, that if a man rub his hands well, either with the juice of the roots or the seeds, he may handle scorpions safely; and that, if you only lay a radish on one of these reptiles, it will cause its death.

Philostonicus prescribed them for those who were continually relaxed by reason of a weak stomach. The chewing of radishes was recommended to those who were given to drowsiness, and inclined to lethargy. The seeds, parched, and mixed with honey, were given to cure short breathing.

Radishes abound with a penetrating nitrous juice, which makes them diuretic, and cleansing to the intestines and viscera. They have, somewhat, also, in their outer skin, which is hot and biting; both which qualities help to make them a good antiscorbutic. This outer skin of the red radish gives a blue tint, but which becomes red on pouring acids on it.

The syrup of radishes is as good as that of turnips for all complaints of the chest, in which respiration is difficult, as well as for hoarseness of the voice. It is said to be excellent in the whooping-cough.

Gérard informs us that they were eaten raw with bread only, but when boiled in broth, they were thought good for an old dry cough: they were then often called Rabone.

Radishes are opening, attenuating, and antiscorbutic, but afford little nourishment. They are diuretic, and good for the stone and gravel.

The roots and seed are employed in medicine in wasting and expelling the stone; and in opening obstructions of the liver and spleen.

The radish possesses the virtues of the *Cochlearia*: the root is esculent, expels phlegm from the intestines, and is a carminative. The flowers, leaves, seeds and roots are antiscorbutic; for which reason they are proper for pblegmatic constitutions.

The root contains much of an aqueous and acrimonious substance; and the drier it is, the more acrid it becomes; but its acrimony is lost in boiling. Its aquosity renders it flatulent, on which account it is said not to be good in hypochondriacal disorders.

The daily use of the root, however, is of sufficient efficacy to cure a great dropsy in the beginning: and is of excellent service in the scurvy.

Phil. Cul. Veg.

49. METHEE....H ...SHINLEED OR SHINLEET....P.

FINUGREEK....E....FOENTUM GRECUM.....L.

FINUGREC.....F.

This is a kind of spurge sown in *Kamil* land—It is used in culinary purposes, and, as medicine, in cataplasms and fomentations.

50. MIRCH SOORKH...H...FILFIL-OOS SLODAN... A.

CAYENNE PEPPER ...E. (SPECIES) COCKSPUR ...E.

PIPER INDICUM... ..L .CAPSICUM ANNUUM. . .L.

PIMENT. P.

Natural order, Lauræ A Genus of the Pentandria Monogynia class.

This is cultivated in *Kamil* land, and is used, as a condiment, in culinary purposes. It is of an acid burning taste, its active quality residing in a resinous principle. Its virtues are stimulant, stomachic, and roborafacient. It is employed in dyspepsia, anarthritic, caryza and in intermittent fevers.

51. MURSA... ..H.

A kind of spurge cultivated in *Kamil* land.

52. NAREEH.

A kind of spurge of spontaneous growth, generally on the verge of tanks and rivers.

53. PLI, IIAH . GOURD (A KIND OF).....E.

Vide No 41.

Cultivated in *Kamil* land, and used in culinary purposes.

54. POAST.

51. POAST.....H.....KHUSH KHASH.....P.

KOAKNAR.P..... ROOMMAN-UOS-SOAL....A.

POPPY.....E.....PARAVLE ALBUM.....L.

PAYOT.....F.

Natural order, Rhædæ. A Genus of the Polyandria Monogynia class.

This grows in almost every soil, but flourishes most luxuriantly in rich loamy ground, or, what is called *Kamil*, well manured with rotten dung, so as to render it mellow. As soon as the plants appear, they must be carefully weeded, by which means their growth is promoted; so that each root will produce from four to ten heads or pods, containing large variegated flowers. When the capsules, or seed vessels, are about half grown, two longitudinal double incisions are made, passing from below upwards, and taking care not to penetrate the internal cavity. The incisions are repeated every evening until each capsule has received 8 or 10 wounds; they are then allowed to ripen their seeds. If the wounds were made in the heat of the day a cicatrix would be too soon formed. The night dews favour the exudation of the juice—Early in the morning it is collected by scraping it off, and the whole deposited in an earthen vessel, and worked by the hands in the open sunshine, until it becomes of a considerable thickness; when it is dried and brought to use, and is called opium or *Ussyon*—It is of a reddish brown colour with a peculiar strong odour. The heads or capsules, being boiled in water, impart a narcotic juice, but the seeds are very nourishing and totally divested of all narcotic property.

The following is an account of Poppy taken from the Domestic Encyclopedia of Dr. Willich.

2. The WHITE POPPY (*Papaver somniferum*) is a naturalised English plant, with smooth calyx and seed-vessels, and with leaves embracing the stem, which grows wild in neglected gardens, and some corn-fields, and to which we are indebted for two important medicines, *opium* and *laudanum*.

Opium is the dried juice of the seed-vessels, and is thus procured:—After the petals have fallen off, and the seed-vessels are about half grown, the latter are wounded on one side with an instrument having four or five teeth, the gashes being made about an inch in length. A glutinous milky fluid exudes from the wounds, which is carefully scraped off, on the ensuing day, by a person who, in similar manner, wounds the opposite side of the head, the juice issuing from which is similarly collected. The whole is then put into earthen vessels, where it is worked by the hand, in the open sunshine, until it attains sufficient consistence to be formed into balls, cakes, or loaves, after which it is covered over with poppy or tobacco leaves, and further dried, until it is in a proper state for exportation. *Opium* is of reddish brown colour, inclining to black, and has a strong and very peculiar smell. It is adulterated in various ways; by an extract of the plant, obtained by boiling; by a powder of the dried leaves and stalks, mixed with some kind of gum; by rice flour, and by other substances not quite so agreeable as these.

Laudanum is a liquid preparation from *opium* and spirit of wine, which is used for most of the same purposes to which *opium* is applied. Its effects, as a poison, may be counteracted in the same manner as those of *opium*.

The seeds of the white poppy are very nourishing; are divested of the narcotic property of the flower; and yield, on expression, a mild, sweet oil, little inferior to that of almonds: hence, they are often employed as an article of diet.—LINNÆUS counted in one poppy head 32,000. seeds; and as there are *white* and *blue* grains, we understand from an experienced gardener, that the former, when found in heads, the capsule of which is of a bluish cast, are the most successful for propagating the species, and likewise afford a larger proportion of sweet-oil than the blue seed.

Opium is very ponderous; of a close and compact texture; rather moist; and of a deep brown color. It emits a faint smell, and has a very bitter acrid taste: the best sort is of a moderate firmness, possessing a very powerful odour, and a bitter, disagreeable flavour. This narcotic drug is at present greatly esteemed; and, whether used in the extract made into pills, or in the liquid form of LAUDANUM, it is one of the most valuable medicines. Being a very powerful antidote, as well as a remedy for procuring sleep and mitigating pain, it is but too often abused. If conjoined in certain proportions with vegetable acids, it possesses the remarkable property of preventing sleep, and exciting the mental powers. On this account, it has often, though injuriously, been employed by those who are obliged to devote their nights to sedentary or active pursuits.

Among the various disorders, in which opium has been given, with good effects, we shall first mention diarrheas, and dysenteries. It has likewise been found serviceable in relieving the tooth-ach; in allaying the pain and preventing the fever arising from wounds, fractures, or similar accidents; and also in the small-pox, both where the patient is troubled

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59. SHULGHUM.....P....SHULJUM.....!..A. . .

LIT.....A.....TURNIP.....E. --

RAPA.....L....NAVET.....F. '

Natural order, Siliquosa. A Genus of the Tetradynamia Siliquosa class.

Turnips thrive best in arid, sandy and gravelly soil where most other plants would perish. Their virtue resides in a saccharine and mucilaginous principle, and are generally used in culinary purposes.

In medicine they are considered flatulent and diuretic.

60. SOA.....H.....SHIWUD AND SHIWUT...P.

SHIDUTT.....A.....FENNEL.....!...E.'

FENICULUM.....L.....FENOUIL.....F.

Natural order, Umbellatæ. A Genus of the Pentandria Digynia class.

"Sylvanus comes with rustic honours crown'd,

"Fennel and lilies do his brows surround."

VIRGIL.

This is cultivated in Kamil land, and the leaves and tender stems used, as a vegetable, in culinary purposes. The seeds have an aromatic smell, and a moderately warm pungent taste, and may be considered as good stomachics and carminatives; and boiled in barleywater is good for nurses, as it is said to increase milk and make it more wholesome for the child. Its leaves in decoction are said to strengthen the sight, and its juice, taken fasting, is recommended as a cure for intermittent fevers.

hat of potatoes; and like these roots, yams often prove an excellent preparatory crop for wheat. Farther they are very productive; the red variety yields more than the white sort, but the latter is by far more delicate and palatable.

As an article of food, this bulbous root possesses all the properties of potatoes, excepting that it is less mealy; in a raw state it is viscid; but, when roasted, it is equally wholesome and nourishing.

Burham says, "the juice of the leaves is good against the sting of scorpions; and they make a good fomentation for ulcers, &c," *Phil. Cal. Veg.*

57. SHUKURQUND. H. SWEET POTATOES. E.

CONVOLVULUS. L.

Natural order, *Companaceæ*.—A Genus of the *Pentandria*
Monogynia class;

This is raised from slips, and is cultivated by laying a few short joints of the stem or larger branches in shallow trenches of *Kamil* land, with inter-spaces, and covering them with mould from the banks. The roots come to maturity in about four months, and the propagation is continued by covering the stems, bits, and small protuberances with mould,

58. SAME. H.

A kind of bean sown in *Kamil* land and used in culinary purposes,

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61. TOORULE.....H.

A vegetable sown in *Kaml* land, and used in culinary purposes.

62. TURBOOZH.....HINDOONERH....P.

BITTEER HINDEE....A.....DABOOQEH.....A,

WATER MELON.....E.....CUCUMIS ANGURIA.L.

MELON DEAU.....F.

Natural order, Cucurbitaceæ. A Genus of the Monoecia Syngenesia class.

This is esteemed a salubrious and cooling fruit, and cultivated in *Kaml* land in small beds well manured, and generally along the banks of rivers. If eaten much it is apt to induce flatulency.

63. UDRUK.....H.....ZUNJBEEL.....A.

GINGER.....E.....AMONUM ZINGIDER.....L.

GINGEMBRE.....T.

Natural order, Scitamineæ. A Genus of the Monandria Monogynia class.

Ginger is propagated by the small pieces, prongs, or protuberances of the root, each of which throws up two different stems. It thrives best in a rich cool soil; but what is produced from a clayey tenacious soil, shrinks less in scalding, than such as is raised in rich black moulds. Ginger dried is distinguished by the name of *Sonth*.

"When roots are intended for sugar-preserve, they are dug while tender and full of juice; the stems at this time rarely exceed five or six inches

inches in height ; the root is carefully picked, washed, and afterwards scalded till it is sufficiently tender ; it is then put in cold water, and peeled and scraped gradually. This operation may last three or four days, during which it is commonly kept in water, and the water frequently shifted, as well for cleanliness as to extract more of the native acrimony. After this preparation it is laid in unglazed jars, and covered with a thin syrup, which in two or three days is sifted, and a richer put in : this is sometimes again removed for a third, or fourth ; but more than three are seldom requisite. The shifted syrups are not lost ; for, in Jamaica, they are diluted with water, and fermented into a pleasant liquor, called cool drink, with some mixture of the chaw-stick, *vignum vita*, and sugar.

“ This root, however, either in its natural state or caudied, is esteemed a good remedy against the colic, loosenesses of the belly, and windy disorders. It strengthens the stomach, helps digestion, and is often added as a corrector to purges ; its use in culinary preparations is well known.

“ The cases in which ginger is more immediately serviceable, are flatulent colics, debility and laxity of the system, and in torpid and phlegmatic constitutions, to excite a brisker action of the vessels.

“ Dr. Wright says, that ginger is good in baths and fomentation ; in complaints of the viscera, pleurisies, and obstinate continued fevers. Infused in rum or wine, with filings of steel, it is also said to be useful in obstructions.

67 GEHOON	H	GUNDOOV	P.
BOOR AND HINTEH	A	WHEAT	F.
TRITICUM	L.	FROMENTE OR BLANCHE	F.

Natural order, Graminae A genus of the Triandria Digynia class

This is sown in soils of *Middling quality*, and where water is at hand for the purpose of irrigation. When the seeds spring up, watering is necessary even to the space of a month, the produce of such land where *Kungnee*, *Bajra* and *Mufuee* had been the preceding crops, is called *Doo-sahee*, and is of an inferior quality when compared with that which is raised in *Bhador* or *Turace* land. The crops are mowed and heaped in stacks and trodden out by bullocks and winnowed. Wheat grows almost in every country, and is one of the first necessities of life. Its virtues, as food, are too well known to need a detail here. The dried plants are given to the cattle.

“Wheat is subject to a variety of maladies that no human prudence can prevent, one of which proves in the most positive manner the necessity of the sexual impregnation of plants, for when the corn is in blossom, if heavy rains or tempestuous wind carry off the farina from the male stamina, the ears become abortive and destitute of meal, or partly so, according to the situation, or to their state of fitness to receive the pollen. To remedy this evil Dr Cartwright recommends to sprinkle the corn with a solution of salt” *Phil. Cal. 1 eg.*

68. JUO CHAHLE H. P.... SILVER . . A.
 BARLEY. E HORDEUM...L.
 ORGE F.

*Natural order, Gramina A Genus of the Triandria Di-
 gynia class*

This is cultivated in lands of the same description as the foregoing and reaped also in like manner. The use of Barley in this country is confined to the lower class only, and it also serves as feed for cattle. The dried stems make fodder for cattle.

The general esteem in which this grain is held in Europe, both for its virtues as a article of food, and for its medicinal qualities, is too well known to need a description here.

Homer speaks thus of Barley.

• The russet field rose high with waving grain,
 With bended sickles stand the reaper train
 Hefe stretch'd in ranks the level'd swa this are found,
 Sheaves heap'd on al eaves here thicken up the ground
 With sweeping stroke the mowers strew the lands,
 The gatherers follow, and collect in bands
 And last the children, in whose arms are borne
 (Too short to gripe them) the brown sheaves of corn
 The rustic monarch of the field describes,
 With silent glee the heaps around him rise
 A ready banquet on the turf is laid
 Beneath an ample oak's extend'd shade
 The vict'm ox, the sturdy youth prepare
 The reapers due repast, the women's care."

69. JUO KHIAKEE or DHOORYA.H.

Vide No. 67.

This is sown in *Bhoor* or high and sandy soil. If it rain much in the months of *Bladder* and *Koontr*, watering is not requisite; and, if in *Poose*, the produce will be abundant, otherwise scanty. This *Juo* in comparison to *Chakes* is of an inferior quality. In hard soil, it does not flourish, but thrives in such as is loose and sandy. Its use is similar to *Juo Chakes*, and is reaped accordingly.

70. MUSOOR.....H.....UDUS.....A.

MUCHUR.....P.....VETCH (A KIND OF).....E.

This is sown in land of the last year's *Khuref* harvest, and reaped similarly to *Chuna*. Its properties are only known as food for men and cattle. The stems serve for fodder.

71. MUTUR.....H....KUSUNG AND KURUSNEH....P.

HUB-OL-BUQUA.....PEA.....E.

PISUM.....LPORS.....F.

Natural as the Papilionaceæ or Leguminosæ. A Genus of the Diadelphica Decandria class.

This is sown with *Juo Khakes*, &c. and reaped like *Chuna*. This pea differs from the garden pea in point of delicacy and taste. The following account of the garden pea is taken from Mr. Phillip's cultivated vegetables.

The

"The garden peas have been greatly improved in this country, by what is called *rouging*; which is done by looking carefully over such peas as are designed for seed at the time when they begin to flower, and drawing out all bad plants, to prevent their *ferina* from impregnating with the good; to effect which this is always done before the flowers open. By thus diligently drawing out the bad, and reserving those which come earliest to flower, peas may be kept two years, but after that time they become very uncertain. Some peas love a light soil, others a rich ground. Peas are a vegetable that requires much nourishment; they thrive best in new earth, but do not prosper so well on manured ground, and will not bear planting successively in the same place, for they will be observed to turn yellow and yield but little seed.

"The following method of keeping green peas, and French beans, is given in Soncini's *Bibliothèque Physico-economique*. Into a middling size stew-pan, filled with young green peas, put two or three table-spoonfuls of sugar, and place the pan over a brisk charcoal fire. As soon as the peas begin to feel the heat, stir them twice or three times, and when they yield water, pour them out on a dish to drain; when drained, spread them out on paper in an airy room, out of the sun, and turn them frequently that they may dry the sooner. It is necessary for their keeping, that they should not retain any moisture, for if they do, they will soon grow mouldy. French beans may be managed in the same way, and will thus keep good till the next season, as well flavoured as when first gathered. Peas may be dried when gathered green, and are much better for soup than those gathered quite ripe.

“ Ray assures us that green peas eaten raw are good for those who have caught the scurvy by eating salt meat or fish.

“ Peas, when green, are a pleasant, grateful, nourishing food, but somewhat flatulent and windy, as well as when dry. They are good to sweeten the blood, and correct salt scorbutic humours, either eaten raw or boiled.

“ They produce the greatest part of their good effects by the help of their oily balsamatic parts, which, sheathing up sharp humours of the breast, stop coughs; and by easily condensing in the vacancies of the solid parts, repair and nourish them. The first porridge or boiling of peas, is softening and laxative, because it is filled with the more dissoluble salts of this pulse; these salts, irritating and pricking the internal glands, cause them to let pass through their pores a greater quantity of serous matter. Peas contain a viscous and thick juice, which causes wind, and produces gross humour; and, therefore, they are not good for those that are troubled with gravel.

“ Broth of peas, not only renders the body soluble, but it is also beneficial in nephritic pains, according to Simon Pauli, in his *Quadrupartitum Botanicum*. Some, also, use with success a decoction of peas, in order to cure cutaneous disorders and pimples.”

72 RYFEH ... KIBBULP.
MUSTARD ' ' E ... !SINARIS.....!.. L
MOUTARDEF.

*Natural order, Silquosæ or Cruciformes. A Genus of the
Tetradynamia Siliquosa class.*

This may be sown in all kinds of land, as it leaves the soil in sufficient tilth for the reception of any other crop. The seeds yield a considerable quantity of expressed oil, which partakes but little of the acrimony of the plant. It is generally used as lamp oil. Mustard stands deservedly recommended for exciting appetite, promoting digestion, increasing the fluid secretions, also in paralytic and rheumatic affections. The cake after the expression of the seed is called *Khullee*, and is more pungent than mustard itself, and given as food to the cattle,—goats feed upon the plant when dry.

73. SIRSOON... H ... Sursit... P.

This is of the same order and class as the *Ryec*, and is generally sown along with *Wheat*, *Jow* and *Carrot* in land wherein the *Khulee* harvest has been the preceding crop, and is reaped similarly to *Chuna*. The seeds yield a considerable quantity of oil on expression, which is used both in lamp and culinary purposes. They are also said to possess some medicinal qualities. The tender plants form a palatable vegetable, and sheep and goats feed upon the dried stems.

74. SEHOOAN... H.

This is of the same species as the above, and brought to similar use, but, being of an inferior quality, is not so generally cultivated.

In pleuritic pains, says Raygerus, I have often experienced linseed oil to be the most successful medicine I could prescribe; for it immediately facilitated respiration, and promoted spitting. In hæmoptoe, also, I exhibited the same oil with the desired success; for, by its balsamatic and emplastie virtue, it consolidates the affected parts.

The oil, boiled with honey, clears the face and skin of spots, and all cutaneous blemishes.

77. KOOSOOM.....H.....KAJERREH.....P.....

HUSUKDANEH....P.....OOSFOOR.....A.

MUASFUR.....A.....KATISHAH.....A.

EHREEZ.....A.....QOORTOOM. (THE SEED.) A.

KUR [THE SEED.] H.....SAFFLOWER OR.....

CARTHAMUS.....L.....BASTARD SAFFRON. } E.

Natural order, Compositæ. A Genus of the Syngenesia

Polygamia class.

This is sown similarly to *Wheat*, &c. The flowers pulled, when full blown, form an excellent scarlet color, and the seeds afford oil on expression, which is used in medicinal purposes. The seeds themselves are considered as a cathartic.

The following process for dying red, with safflower, was successfully tried by professor BECKMANN. He says, "I boiled a piece of cotton several times in olive oil, then washed it thoroughly in cold water, and afterwards dried it. After this, I mixed water impregnated with the

yellow colouring, matter of the carthamus, or a yellow infusion of the carthamus, with pounded galls and alum. I then took cloth which had been premacerated in oil, and dipped it in this solution, after it had boiled a little, and found that the cloth, when wrung, was of a yellow colour. Having dried the cloth, I dipped it in the cold alkaline liquor of the carthamus, and then immersed it in lemon juice, and thus being frequently repeated, the cloth appeared of a beautiful and full red. Cloth which had not been steeped in oil, but which in other respects had been exposed to the like process, was of the same colour, but a little paler; and for that reason, I recommend this mode of dyeing to those who do not choose to employ oil."

78 KHURBOOZEH... H,... BETTEEKH... A,

MUSK MELON.....E... MELON MUSQUE,

Vide No 62.

This is cultivated in *Poluch* land, well manured. This fruit is peculiar to the Upper Provinces.—It does not grow in Bengal.

79 TURBOOZ BYSAK, HEE.... H.

Vide No 62.

This is sown in *Poluch* land, well manured.

80. TUMAKOO BYSAK, HEE... ..P.

Vide No 92.

This springs up from the roots of *Tumakoo Asarhoo*, and is treated similarly. The produce is of a secondary quality.

81. URUND.

81. URUND.....H....BEDUNJEERP.

KHIEWUE.....A....PALMA CHRISTI...E. F.

RICINUS COMMUNIS L.

Natural order of Tricocœ. A Genus of the Monoecia

Monadelphica class

This is sown around the *Kupas* fields. The oil drawn by expression from its nuts when fully ripe, forms the well known medicine (Castor-oil) held in such general estimation as a safe and mild laxative.

82. BALUNGOO....P....BASIL SWEET (A KIND OF)...E.

OCIVUM.....L....BASILIC... ..F.

Natural order, Verticillatœ. A Genus of the Didynamia

Gynnospermia class.

This grows spontaneously. The seeds steeped in water forms a cooling and pleasant beverage.

83. BYGUN BYSAKHËE.....H.

Vide No. 83.

84. DHUNYA.....H....GISHNEEZP.

KISHNEEZ.....A.....JOOIJOOANA.

KOOZBOOREN.....A....CORIANDER.....E.

CORLANDRUM SATIVUM...L.....CORIANDRE.....F.

Natural order, Umbellatœ. A Genus of the Pentandria

Digynia class.

This

This Umbelliferous plant is cultivated similarly to *Gajur*. The leaves and seeds are used in cookery—The seeds when dried are recommended as a carminative and stomachic.

85. USP-I-GHOOL.....P.....FLEAWORT.....E.

PSYLUM.....L.....HERBE AUX PUCES.F.

BUZR-I-QUTONEH.....A.

This is cultivated in *Kamil* land—The seeds thrashed and winnowed are used in medicine.

86. KUKREE.....H.....B.

A kind of long Cucumber.

This is cultivated in *Kamil* land and used in culinary purposes.

87. KHOORFEH.....A. KOOLFA (ERRONEOUSLY CALLED) H.

LONEYA.....H.....TORUK.....P.

BUQLUT-OOL-HUMQAA.....A.....PURSLANE.....E.

PORTULACA.....L.....POURPIER.....F.

Natural order, Succulentæ. A Genus of the Dodecandria

Monogynia class.

This herb is cultivated for culinary uses. The seeds are ranked among the lesser cold seeds, and sometimes employed in emulsions.

88. KASNEE.....P.....KASNEE.....H.

HINDIA.....A.....ENDIVE.....F.

ENDIVIA

ENDIVIA OR }
CICORIUM } .L.....CHICOREE BLANCHE...F.

Natural order, Compositæ Semiflosculosæ. A Genus of the

Syngenesia Polygamia Æqualis class.

This is raised for its seed, which forms a cooling beverage.

89. KUWULGUTTA.....H.....NYLOFUR.....P.

This grows wild in tanks. The seeds are a kind of nuts called *Muk,hana*, and are parched and ate by the Hindoos on fast days. The plants themselves form a delicious pot herb. The nuts or seeds are likewise used as beads by Hindoos for religious purposes.

90 KUSEROO.....H.

This grows wild in tanks and the roots are very sweet and delicious; when dried they are used in medicine.

91 KURELA.....H.

A pot herb cultivated in Kamil land. Kurela is of a fine bitter flavour, but rendered mild by dressing it with onions, &c.

92. LEHSUN'.....H.....SEER.....P.

SOOM.A.....GARLICK.....L.

ALLIUM.L.....AIL.....F.

Natural order, Spathaceæ. A Genus of the Hexandria Monogynia class.

This is cultivated for its root, which is large, round and white, and of an irregular form with numerous fibres at the bottom, composed of

many smaller bulbs called cloves, enclosed in a common membranous cover; this pungent root warms and stimulates the solids, and attenuates tenacious juices by its penetrating powers.

93. PEAZ.....P..... KANDHA.....H.

BUSUL.....A ONIONS.....E.

ALLIUM CEPA.....L..... OIGNON.....F.

Of the same Order and Class as Lehsun.

This is also a bulbous root cultivated in *Poluch* land. The many domestic purposes to which this strong scented vegetable is applied at the present time are known to every one; its nature is to attenuate thick viscid juices.

94. RYHAN.....A... ..TOOLSEE (KALEE)..H.

NAZDOO... ..P.

Vide No. 82.

This grows spontaneously. The seeds are used in medicine as a cooling beverage.

95. SUONF.....H.....BADEEAN.....P.

RAZYANUJ.....A.....A.

This is cultivated in *Kamil* land;—the seeds are used in medicine.

96. UJWAYUN.....H.....NANKHWAN....P.

TALUB-DOO-KHOEBZA.

This is likewise cultivated in *Kamil* land, the seeds are used in medicine as a carminative.

97. ZEEREH

97. ZEEREH.....P.....JEERA.....H.

KOOMMOON.....A.....CUMIN.....E.

CUMIFUN.....L.....ARLET.....F.

Natural order, Umbellatae. A Genus of the Pentandria Digynia class.

This umbelliferous plant is cultivated in *Kamil* land. The seeds have a bitterish warm taste, accompanied with an aromatic flavour. The natives generally use it as a carminative.

MISCELLANEOUS.

98. SALT.....E.....LONE (K,HAREE).....H.

NUMUK.....P.....MILEH.....A.

SEL.....F.

K,haree is a particular description of earth strongly impregnated with saline particles, from which a species of salt is drawn by the following process. It commences in *P,hagoon* and continues until *Jet,h*, when the setting in of the rains puts a period to further operations. *K,haree* earth is generally found in situations adjacent to tanks or small *Nullahs*. It is taken off lightly from the surface, and piled up in a large heap near the spot fixed upon for the manufacture, where shallow vats, or salt pans, have been previously built (*pulka*) with brick and mortar. Where the saline matter is gathered a well is sunk, as the water obtained therefrom is more or less brackish, and consequently preferable for the process. The heap so formed is freely drenched therefrom, and the water, which,

by

by this means has imbibed a considerable accession of saline matter, is suffered to flow into the pans, and there remain until wholly evaporated; when the residue is preserved, and is called *K,harree Lone*.

The earth from which the salt is prepared, is gathered and carried on bullocks to the place of manufacture. The operation lasts for four months; at the end of which, a duty of 10 Rs. is levied upon every bullock load formerly employed. In some places, however, the custom prevails of giving up half the quantity of the salt manufactured; in which case the Collector of Duties places a peon over the manufacturers to prevent embezzlement.

99. PQDEENA.....H....	PODENEH.....	S.
FOTENUS.....A....	NUANA (A SPECIES OF)...	A.
MINT (SPEAR).....E....	MENTHA.....	L.
MENTE.....	F.	

Natural order, Verticillatæ or Labiatæ. A Genus of the

Didynamia Gymnospermia class.

This is planted in gardens and lasts all the year round. It suffers however from rain. Mint possesses various medicinal qualities as a carminative and stomachic. It is recommended in colic pains and proves of service, in hysteric cases. It has been noticed by Pliny that mint prevents the coagulation of milk, hence it is recommended in milk diets. According to Turner, the smell of mint corroborates the brain, and not only preserves but also increases the memory.

100. GUNDUNA (*Erroneously called*) GUDEENA.....H.

This plant is raised for the purposes of kitchen by burying a barley in a garlick clove. It continues all the year round,

101. HALIM or HALON.....H.....TUREH TUNDUK.P.]

TUREH TEZUK.....P.....RASHID.....A.

JIRJEER.....A.....CRESS.....E.

SISYMBRIUM.....L.....CRESSON.....I.

Natural order Siliquosa. A Genus of the Tetradyamia
Siliquosa class.

This is planted in gardens and continues all the year round. It is eaten as a wholesome salad. In medicine it is recommended as antiscorbutic and stonachic. The leaves possess a moderately pungent taste, and a penetrating smell.

102. LUOKA or TONBA H.

Of the Class and order of Kudoo.

This is a species of Gourd and grows both wild and is cultivated. It is not considered an edible vegetable. The shell, after being cleared of the pulp, is dried and made into flasks, and is likewise used in forming the lower part of the musical instruments called the *Schkar* (Guitar) and *Been*.

END OF THE 2ND CHAPTER.

、 APPENDIX
TO
CHAPTER 2D.

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The Persian and the Arabic names have been ascertained and carefully examined from the following Books.

BOORHAN QATUE
TOHFUT-OOL-MUOMUNEEN MOOFRIDAT,
MUKHZUN-OOL-UDWEEYEH OF MOHUMMUD HOOSEIN
KHAN.

The English and the Latin names as well as the Botanical Order and Genuses from

ULFAZ-OOL-UDWIYEH.
NICHOLSON'S ENCYCLOPEDIA, and
The EDINBURGH DISPENSATORY.

The French names from

DICTIONNAIRE DE L'ACADAMIE FRANCAISE and
DICTIONNAIRE UNIVERSEL, &c. by. G. N. Dufief.

APPENDIX.

ABBREVIATIONS.—H. for *Hindee*. P. for *Persian*. A. for *Arabic*. L. for *Latin*. E. for *English*. F. for *French*; and V. for *Vernacular*.

A.		B.	
L. Acetosa, or Oxalis,	— 39	F. Betel,	— 29
F. Ail,	— 92	E. Betel, (leaf),	— 29
L. Allium,	— 92	E. Beet,	— 38
L. — Cepa,	— 93	L. Beta,	— 38
اَلْوِ H. Aloo,	— 18	F. Bette rare,	— 38
L. Amomum Zingiber,	— 63	بِهَانَا H. Bhānta,	— 33
L. Anethum,	— 60	بِهِنْدِي H. Bhidee,	— 40
E. Anise (according to Richardson),	— 95	بِهْتَا H. Bhootta,	— 9
F. 'Anis,	— 95	بِرُنْج P. Birunj,	— 2
F. Arlet,	— 97	بِطِيخ A. Bittcekh,	— 78
F. Arroche,	— 35	بِطِيخِ Hindee, A. Bittcekh,	— 62
L. Atroplex Hortensis,	— 35	F. Blé,	— 67
L. Arum,	— 17	A. Boor,	— 67
اَرْزُون V. Arzun,	1, 6, 66	L. Brassica,	— 43
B.		V. Brinjal,	— 33
بادِ دِيعَان P. Badeean,	— 95	F. Brinjale,	— 33
بَادِ نِگَان P. Badingan,	— 33	بِجَرَبَهَب H. Bujurbhung,	— 32
بَادِ نِجَان P. Badingan,	— 33	بِن H. Bun,	— 19
بَادِ رَنگ P. Badrunç,	— 42	بَقْلَا الحَمَاء A. Baqlat-ool-Hamaqā,	— 87
بَا جِرا H. Bajra,	— 1	بَقْلَا الن ديبه A. Baqlat-ool-Zahubieh,	— 55
بَالِنگُو P. Balangoo,	— 82	بَسَل A. Basul,	— 93
بَا قِلَا A. Baqilla,	— 34	بُتُو H. Bathooa,	— 35
E. Barley,	68, 69	بُزِرِ قُتُونَا A. Buzz-i-Qutoneh,	— 83
E. Basil, (sweet),	— 82	بَزَرَن P. Bazrak,	— 76
F. Basilic,	— 82	بِزَن H. Bizan,	— 33
E. Bastard Potatoes,	— 17		
E. Beans,	— 13		
بِيدِ اَنْجِير P. Bid Anjeer,	— 81		

C.	
E. Cabbage,	— 43
F. Calebas, or Calbas,	— 53
F. Cane-a-Sucre,	25, 26
L. Cannabis,	27, 31
F. Carotte,	— 3
E. Carrot,	— 3
L. Carthamus,	— 77
E. Cauliflower,	— 44
E. Cayenne Pepper,	— 50
L. Cepa Allum,	— 93
F. Chanvre,	27, 31
F. Chicoree Blanche,	— 56
H. Chooka,	— 39
P. Chooquundur, or Choo-	
ghundur,	— 38
F. Chou,	— 43
F. Chouffleur,	— 44
H. Chuchinda,	— 36
H. Chuolâpe,	— 37
H. Chuna,	— 65
H. Chynâ,	— 66
L. Cichorium,	— 86
F. Citrouille,	41 — 47
E. Cockspur,	— 50
E. Cole, or Colewort,	— 43
E. Combtree,	— 5
F. Concombre,	— 42
L. Convolvulus,	— 57
E. Coriander,	— 84
F. Coriandre,	— 84
L. Coriandrum Sativum,	— 84
F. Cottonier,	— 19
E. Cotton Plant,	— 19
E. Cresses, (Water)	— 101
F. Cresson,	— 101

C.	
E. Cucumber,	— 42
L. Cucumia Auguria,	— 62
L. Cucumis Hortensis,	— 42
L. Cucurbita,	— 41
E. Cumin,	— 97
L. Cuminum,	— 97
L. Curcuma,	— 20
D.	
A. Dabooqeh,	— 62
L. Daucus,	— 3
H. Dhan,	— 2
H. Dhendus,	— 40
H. Dhunya,	— 84
L. Dioscoria,	— 56
A. Dookhn,	5, 66
P. Durdab,	— 56
P. Dustumboyeh,	— 46
E.	
E. Egg Plant,	— 33
A. Ehreez,	— 77
E. Endive,	— 88
L. Endiva,	— 86
F. Epinards,	— 37
F.	
L. Faba, (Beans),	— 13
E. Fennel,	— 60
F. Fenouil,	— 60
F. Fenugrec,	— 49
E. Fennugreek,	— 49
A. Filfil-oos-suodan,	— 50
E. Flax,	— 76
E. Fleawort,	— 85
L. Fœniculum,	— 60
L. Fœnum Græcum,	— 49
A. Foojl,	— 48
A. Foténuj,	— 99
F. Froment,	— 67
A. Furéqeh,	— 13
G.	

دَابُوْقَه

دَهَان

دِهَنْدُس

دِهَنْيَا

دِهَنْ

دُرْدَاب

دُسْتُمْبُوَيْه

اَخْرِيش

فَالْفِل السُّودَان

فُجِيل

فُوتُونُج

فُرَيْقَه

G.		H.	
کاجر	H. Gâjur, — 3	حمّاض	A. Hummaz, — 39
	E. Garlick, — 92	حک دانہ	P. Husukdaneh, — 77
گھون	H. Gehoon, — 67	I.	
گھویا	H. G,hoôéâ, — 17		E. Indian Corn, — 9
	F. Gungembre, — 63		E. Indigo Plant, — 22
	E. Ginger, — 63		F. Indigo, — 22
گیشنیز	P. Gishneez, — 84		L. Indigofera, — 22
گول کدو	P. Gole Kudoo, — 41	اسفاناج	A. Isfanakh, — 37
	F. Gombo, — 40	اسپاناج اسپانچ	P. Ispanaj, or Ispanuj, — 37
	L. Gossypium, — 19	J.	
	E. Gourd, 53 — 41	جاووس	V. Jawurs, 1, 5
	F. Grain, — 65	چبرا	H. Jeera, — 97
	V. Gram, — 65	جوار	H. Joar, — 4
گدینا و گدنا	H. Gudeena, or Gunduna, — 100	جولان	A. Jooloolân, — 84
گندم	P. Gundoom, — 67	جو	P. Joo, 68, 69
گنٹا	H. Gunna, — 25	جر جر	A. Jurjeer, — 101
گور	P. Guzur, — 3	جزر	A. Juzur, — 3
	H. — 101	K.	
ہالہ	H. Halim, 27, 31	کافشہ	A. Kafsheh, — 77
	E. Hemp, — 85	کاھو	P. Kahoo, — 45
	F. Herbe aux puces, — 65	کاجیرہ	P. Kajereh, — 77
حیمس	A. Himmus, — 88	کاکن	H. Kakoon, — 5
ہندبا	A. Hindbâ, — 62	کاندھا	H. Kandha, — 93
ہندوانہ	P. Hindoolneh, — 67	کاسنی	P. Kasnee, — 83
حنتہ	A. Hinteh, — 49	کاسنی	H. Kasénee, — 83
حلبہ	A. Hoolbeh, — 68	کبیرا	H. K,beers, — 42
	L. Hordeum, — 20	خیار	A. Khia, — 42
خلدہ	H. Huldee, — 71	خیار دراز	A. Khia durax, — 26
حب البقر	A. Hub-ool-buqur, — 77		K.
حب البزبر			
حب العصفور	A. Hmb-ool-ooosfoor,		

K.		K.		
خِرَوَع	A. Khirwue,	— 81	کَرِیلا H. Kuréla,	— 94
خِرِفَه	A. Khoorfeh,	— 87	کُرُم کَلَا H. Kurum Kulla,	— 43
خِرِنَزَه	H. Khurhoozeh,	— 78	کُرُنَب A. Kurumb,	— 43
خِرْدَل	A. Khurdal,	— 72	کُرُسَنَه P. Kurusneh,	— 71
خُشَنَاش	P. Khushkhash,	— 54	کُیْسِرُو H. Kuséroo,	— 90
خُس	A. Khuss,	— 45	کُشَاخَل Kushakhul,	— 75
کِشَنِیچ	A. Kishneej,	— 84	کُسُگ Kusung,	— 71
کُتَان	A. Kutan,	— 76	کُوَلُکُتَا H. Kuwulgutta,	— 86
کُوکنار	P. Koaknar,	— 54	L.	
کُویِی	H. Kohee (P'hool),	— 44	L. Lactua Sativa,	— 45
کُودُون وُکُ	H. Kodon or Kooduté,	— 6	F. Laitue,	— 45
کُودِرُم	P. Kodrum,	— 6	لِهْسُن H. Lehsun,	— 92
کُولُفَا	H. Koofa,	— 87	E. Lettuce,	— 45
کُومُون	A. Koommoon,	— 97	لِیْعَت A. Lift,	— 59
کُوندُرُو	H. Koondroo,	— 21	F. Lin,	— 76
کُونجُد	P. Koonjud,	— 16	E. Lin, or Lintseed,	— 76
کُورُنَب	A. Koornooh,	— 43	L. Linum Sativum,	— 76
کُوسُوم	H. Koosoom,	— 77	P. Loheea,	— 13
کُوزِبوَرَه	A. Koozbooreh,	— 84	لُون کِهَارِی H. Lone K'háree,	— 98
کُچُو	H. Kuchoo,	— 17	لُونِیَا سَاک H. Loneya (bag.)	— 87
کُچُرِیَا	H. Kuchree,	— 46	لُوکِی دِرَاژ H. Luokee (long.)	— 47
کُدُو	P. Kudoo,	41 — 47	لُوکَا H. Luoka (Tonba,)	— 102
کُکُرِیَا	H. Kukree,	— 86	M.	
کُکُلِی	H. Kullee,	— 7	F. Maiz,	— 9
کُکُم	P. Kulum,	— 43	مَاش سِیَاه H. Mash (Kulac, or Secab)	— 7
کُکُنِی	H. Kunguee,	— 6	مَاش سَبْز A. Mash (Subz or Moong)	— 8
کُکُپاس	H. Kupas,	— 19	E. Melon (Water,)	— 62
کُر	H. Kur (Seed,) — 77		F. Melon D'eau,	— 62
			L. Melongéna,	— 33
			F. Mente,	— 99
			L. Mentha,	— 99
			مِیْتِی H. Methee,	— 49
			F. Mij,	— 66
			مِلْک A. Milk,	— 98

M.			O.		
L. Milium,	—	66	L. Ocimum,	—	82
E. Millet,	4.5.1,	66	F. Oignon,	—	93
E. Mint (garden),	—	99	H. Ole ,	—	100
مرچ سرخ H. Mirch (soorkh),	—	50	E. Onion,	—	93
عولی H. Mooléc,	—	48	أوكه H. Oolab,	—	25
مُونگ H. Moong (Dal),	—	8	H. Oorol ,	—	7
عوتنه H. Mot,hé,	—	10	A. Oorooq-ooos-Subbagheen,	—	20
F. Montarde,	—	72	عروق السبائین A. ———— Soofr,	—	20
معفر A. Muasfur,	—	77	عروق السفر A. ———— ooz-Zaefran,	—	20
P. Muchuk,	—	70	أرز A. Oorzz,	—	2
منگی H. Muknégé,	—	9	A. Oosfoot,	—	77
مروا H. Murood,	—	11	E. } Opium,	—	54
مَرَسا H. Mursa (Sag),	—	51	F. } L.	—	54
E. Musk Melon,	—	78	E. Orach, or Orache,	—	35
مسور H. Musoor,	—	70	F. Orge,	68, 69	
E. Mustard,	—	72	L. Oryza,	—	2
مُتر H. Mutur,	—	71	F. Oscille,	—	39
N.			L. Osalis Acetosa,	—	39
نَک H. Nagbele,	—	29	P.		
نَک و نَک و نَک P. Nankleh, or Nankhwah,	—	96	E. Paddy,	—	2
نَک و نَک و نَک H. Naree (Sag),	—	52	E. F. Palma Christu,	—	61
F. Naret,	—	59	نَک H. Paluk,	—	53
نَک و نَک P. Nareet,	—	24	L. Papaver-album,	—	54
نَک H. Neel,	22, 23,	24	نَک H. Pan,	—	29
نَک P. Neekch,	22, 23,	24	F. Patate,	—	18
نَک A. Neekch,	22, 23,	24	F. Pavot,	—	54
L. Nectarea,	22, 23,	24	F. Peavf,	—	71
نَک P. Naldewel,	—	63	نَک P. Pelt,	—	93
نَک P. Nenzal,	—	24	نَک H. Petika,	—	53
نَک A. Nyzalot,	—	22	نَک H. Peheweb,	—	53
نَک P. Nyzalot,	—	22	F. Piment,	—	53
			L. Pimper Indurum,	—	53
			L. Pimw,	—	71
			نَک H. Pimw,	—	54
			نَک H. Pindia,	—	73
			نَک P. Pindia,	—	73

P.		R.	
F. Po's,	— 71	رازیانه P. Razfaneh,	— 95
F. Pomme-de-terre,	— 48	رازیانه P. Razranuj,	— 95
P. Poombeh (Durkht),	— 19	رز Rize,	— 2
E. Poppy,	— 51	L. Ricinus Communis,	— 91
L. Portulaca,	— 87	F. Rêr,	— 2
E. Potatoe,	— 18	رواس H. Roas,	— 13
F. Pourpier,	— 87	رونی H. Roofé,	— 19
L. Pyllium,	— 85	رومان السعل A. Roomman-oes-soal,	— 54
E. Pulse,	74, 10, 11	رناو H. Rut-aloo,	— 56
بلول H. Pulvul,	— 28	رانی H. Ryéé,	— 72
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قنا A. Qoolqas,	— 17	H. Same,	— 59
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قنا A. Qoota,	— 19	سبر P. Seer,	— 92
قنا A. Qumreeb,	— 43	سیتاپهل H. Seetap,hul,	— 41
قنا A. Qurea,	41 — 47	سهمان H. Sehooâl,	— 74
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قنا A. Qusud,	— 42	E. Sesame, or Sesama,	— 16
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R		شاخل P. Shakhul,	— 75
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END OF THE APPENDIX TO THE 2ND CHAPTER.

CHAPTER 3D.

PART 1st

LIST OF ESTABLISHMENT APPERTAINING TO THE SUDUR KUCHEHREE,
AND COMPREHENDS A FORM FOR INDEX FOR THE REVENUE RECORDS.

PART 2d

LIST OF ESTABLISHMENT BELONGING TO THE TUNSEELDAREE OR
MOOFUSSLI KUCHEHREE.

In this Chapter, the author has given the two following lists, accompanied with a very prolix detail of the manner in which the different officers take their station in the office, with regard to their respective seats which I have thought proper to omit, and, in its room, introduced, under the head of *Muhafiz-e-dustur*, a form of index by which public records, in the Revenue Department, might be arranged, and kept, being similar to a plan I had adopted, while employed in the office of the Collector of Shahjahanpoor, and which had met with the approbation of the late Board of Commissioners in the Western Provinces.

1st. TERRITORIAL.

All Documents connected with the Land Revenue including *Mu-
mukee* or Salt *Muhals*.

2d. CIRCULAR.

All Circular orders whether on the subject of Land Revenue or
other contingent matters.

3d. MISCELLANEOUS.

All Documents of a contingent nature.

4th. SALT.

All Documents relating to *Ablance*, *Taree*, Intoxicating Drugs
and Ferry.

1st Territorial.

This Department is to be arranged *Purganas* and names of *Muo-
ras* are to be inserted in the column appropriated for date and month. It
is to contain the following subordinate heads besides those of each *Pur-
guna*.

Tuqavee..... All orders concerning the advance of cash to
Malgoozars

Tulubana..... All Papers connected with the receipt of cash
on account of *Dustaks*.

Tuozees..... Resolutions on *Tuozees*.

*District in } All general subject which applies to the
General } whole District.*

These Heads are to form general heads under the *Territorial*, and
may not appear under each *Purguna*, unless any of the *Purwanas*, *Letters*,
Urdees, &c. should connect with any of these subjects, other matters

relating to some local transactions in particular villages. In such a case, the *Purwanas*, *Letters* or *Urrees*, &c. so mentioned, should be recorded both under any of the above Heads to which it may belong, as well as under the *Purguna* with which it is connected under its different subject. In the Column of the No. of reference, under the Head of *Purguna*, should be said "Vide No. Head.—"

As the above subordinate Heads are to be the leading Heads under the *Territorial*, it will be necessary to describe the names of the *Parguna* and *Muozza* in the Column of *Month* or *Date*.

2D. CIRCULAR.

Under this Department is recorded all Circular orders, whether it be on the subject of Land Revenue or otherwise. It is to consist of the following Heads.

Territorial.

All orders on the subject of Land Revenue.

Miscellaneous.

All orders on subjects of a *Miscellaneous* nature.

Sayer.

All orders appertaining to Abkaree, Intoxicating Drugs, Stamp and Ferries.

3D. MISCELLANEOUS.

Under this Department is recorded all Records generally for the Zila of a miscellaneous nature, and is to consist of the following subordinate Heads.

Establishment.

Under this Head is arranged all Papers regarding the employment or discharge of the *Umla* whether *Suduree* or *Moofussulee*. In the column under the month; the names of the *Purguna* and the officer, whether discharged or employed, to be inserted, together with his designation.

Pensionary.

Under this Head is to be recorded all Papers on the subject of Pensions. The column of Month to specify the name of the *Purguna*, that of the Pensioner and the amount of the Pension.

Miscellaneous.

Under this Head is to be recorded all Papers connected with Buildings, Purchase of Furniture, Stationery and other subjects of a contingent nature, which cannot be carried under any particular Head. The column of Month to contain the name of the *Purguna*.

4TH. SAYEN.

This Department relates to all subjects connected with the *Ablaree* matter and other Intoxicating Drugs, &c. and to be subdivided under the following Heads.

Ablaree.

Subjects connected with Wines and Spirituous Liquors.

Intoxicating Drugs.

Concerning Bhang, Ganja, Opium, &c.

Taree.

Relative to the Produce and duty on *Taree*.

Stamps.

Stamps.

Regarding the Issue, Receipts and Duties on Stamp Paper.

*Ferry.**

Respecting the Employment of Ferry Boats and the collection of Tolls.

During the year the four Departments and their subordinate Heads are to have a separate series of Nos. appropriated to each, but at the end of the year, the whole of the Index should be recast, and a regular series of Nos. for the whole of the records would answer, placing them in the following order.

TERRITORIAL.

CIRCULAR.

MISCELLANEOUS. .

SAYER.

As sometimes the Records, at the end of the year, become very voluminous, and the Index in consequence also greatly increases, it will be advisable to make out a Key to the Index in the following manner. Let the Muozas of every Purguna be alphabetically arranged, and opposite each Muoza put down the Nos. from the Index, in the order as they occur there, thus :

Muoza

* This duty formerly devolved on a Revenue Collector, but since the promulgation of Reg. VI. 1819, it has been transferred to the Magistrate's office.

Muoza Baburpoor, Nos. 10, 20, 50, 69. These Nos. will at once lead to all the transactions which have occurred during the year in regard to this Mouza. By this means the reference becomes easy, and the alphabetical arrangement of the Muozas fixes the searcher at once on the subject of his search.

8. The writer of Receipts and Disbursements agreeably to the Juma.

9. The writer of daily and monthly Receipts and Disbursements.

10. Writers to assist the Treasurer.

11. This office is required of a very active man; his duty is to accomplish all verbal orders, to report the conduct and attendance of the Umla, and to control the Chuprasees as well as to attend to the issues and returns of Dustuks served on the Malgoozars. He is required to understand reading and writing.

12. An officer whose duty is to keep an account of the issues and returns of Dustuks on the Malgoozars.

13. Writer of the Daily Receipt of Cash, and as he makes his entries he grants *Dakhilas* or Acknowledgments of the amount, specifying the account on which the money has been received.

14. Writer of the daily Disbursements with all their particulars.

15. Examiners of Rupees paid into the Treasury; their duty is to act under the Treasurer, who, the latter, is held responsible for all counterfeit or bad coinage received into the Treasury.

16. Deputy to the Nāzīr, to act under him and to take his place in his absence.

17. He

17. He is to serve upon the Writers and Umla in giving out their Implements of writing, and keeping their Bustas in good order after office.

18. These are to attend to all orders of the Collector in the

19. } issue of Dustuks or other matters connected with the duties

20. } of his office, and to attend on him personally as an appendage

to his rank.

21. He keeps the account of the disbursement of the Suwar's Pay.

22. These are Guards for Treasure.

[PART 2D.]

List of Establishment appertaining to the Tuhseeldaree, or Moofussul Kuchehree.

<i>Officers.</i>	<i>Monthly Pay.</i>
Tuhseeldar (a).....	100
Peshkar, or Deputy Tuhseeldar.....	50
Surrishtehdar.....	15
2 Mootsuddes {	10
{	12
Fotehdar or Cash keeper (b).....	15
Seah Nuwees.....	10
Peadas...(c).....each..	3 8

(a) The pay of a Tuhseeldar is regulated at 100 Rupees for the collection of every Lac

(b) A Fotehdar is always of the Sudur Treasurer's appointment, the latter being answerable for his conduct in all money affairs.

(c) The number of Peadas to each Purgana is regulated according to the number of Muhals it contains.

END OF THE 3d CHAPTER.

CHAPTER 4TH.

CHAPTER 4TH.

Comprehending forms of all Documents used in the Revenue Line.

Here I have contented myself in giving the following List of the Documents with their purport, without entering into a detailed and literal translation of them, as by translating one or two agreeably thereto, I found that it tended to confuse the subject, and did not at all answer the intention; I therefore trust that the plan adopted by me will be found to exemplify the subject sufficiently.

Putta.

An Obligation executed by a Zumeendar to his under-tenant, or by the Government to the Zumeendar, specifying the assessment on the estate, and the instalments by which it is to be paid.

Durkhast.

A tender made by a *Malgoozar* of the *Juma* he wishes to offer.

Quboolcut.

A Deed of Engagement executed by the Zumeendar to the Government, binding himself to the assessed *Juma*.

Moochulka.

An Indemnity Bond.

Iqrarnameli.

A Deed of Agreement.

Wekalutnameh.

A Power of Attorney.

Dakbula.

An Acknowledgment given for Cash received into the Treasury.

Urz-i-Irsal.

Invoice of remittance of Cash.

Tumussook.

A Promissory Note specifying the receipt of cash as a loan, and the term of the repayment.

Zumamulnameh.

A Security Bond.—These are of two kinds as follow.

Malzamunee. Security for Money.

Hazirzamunee. Security to procure the attendance of the person.

Dustuk-i-Shehnugee.

A Summons, bearing a tax of two anas a day, issued to protect the harvest from being stolen. It is drawn both in Hindee and Persian.

Dustuk-i-Tulub-i-Zur.

A Summons issued, at 2 anas a day, against defaulting Malgoozars, for the demand of arrears due from them.

Hookm-i-Khuzaneh.

An order on the Treasury for the payment, or issue, of Cash.

Ishtihar.

Ishtihar.

A Public Notification.

Wajub-ool-Urz.

Written Instructions given to a Tuhseeldar on his appointment, defining his duty.

Sumud-i-Khidmat.

A Certificate of appointment of any officer defining his duty.

Puraaneh.

A Written Order.

Urzee.

A Petition.

Chuk Nameh i-Urazee.

A Document granted by the Surkar to the Zumeendar, on the occasion of land being taken either for the purpose of Public Buildings, or to be given to some one in Muafee.—It defines the quantity, quality and boundary of the land so taken.

Sumud i-Muafee.

A Grant for Rent free land.

Rahdaree.

A Passport.

For further particulars, in regard to forms in which some of the above mentioned Documents are drawn, the reader may consult the Forms of Herkarun with advantage

TRANSLATOR

SHORT ESSAY
ON
HUSBANDRY,
AS APPLICABLE
TO THE
PROVINCE OF BEHAR.

TRANSLATED FROM THE ORIGINAL
PERSIAN,

BY
LEWIS DACOSTA,
(LATE REGISTRAR AT CAWNPUR)

PRINTED BY A. C. BALFOUR, AT HIS PRESS AT INTALLY IN THE
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(December,)
1824.

ACCORDING TO THE BELIEF of *Jagmu* there are four Seasons in the year, but for Husbandry, throughout Hindoostan, are the three following.

BIUDWEE. for the Rainy Season.

KHUREEFEE or the Winter.

RUBEE or the Summer.

THE PRODUCE OF THE SEASONS.

	GRAINS.	VEGETABLES.
BIUDWEE.	Arzun or Chyna	Chuchinda
	Bora or Lobeaa	Dant, la
	Jonar or Joar	Khiar
	Kungnee	Koondroo
	Mash-a-subz	Kukree
	Mukuce	Kundub (Kuchoo)
	Murooa	Kurela
	Shamakh	Nenoon [Potatoes.
	Sat, hee	Soothnee, a kind of
		Toorb
		Turub
KHUREEFEE.	Shalee Ropa (transplanted)	Aloo Badinjan
	Shalee Baog (sown)	Kund Mirch (Soorkh)
	Koorthee	Ole
	n	GRAINS.

	GRAINS.	VEGETABLES.
✓	KHURLEEFEE. Kodrum	
	Koonjud	Same
	Moong	Shulghum
	✓ Mot, hée or Moat, h	Shukurqund
	Muash-i-Seah	Zurdchobe
	Torée	
	Nyshukur	
✓	Bajra	
✓	RŪDEE. Banga	Badinjan
✓	Bubree	Khiair
	Gishneez	✓ Khurboozeli
	Gundoóm	Kothra
✓	Hahm	Kuhree
	Juo	Kurela
	K, heesaree	Kuseroo
✓	Koaknar	Pulwul
✓	Kutan	Turbooz
	Methee	Turuh
	Mutur	
	Nankhwah	
	Nukhood	
	Peas	
	Sea	
	Suonf	

	GRAINS	VEGETABLES
RUBEE	Surshuf	
	Udus	
	Urhur	
	Urund	
	Zeerdt	

QUALITY OF DIFFERENT KINDS OF SOIL

Chuka Kewal.

This land is of a black color, and when dry, it splits in pieces, and on being wet, from its adhesive nature, it is tilled with difficulty. It does not absorb much water, and is fit for the cultivation of Grains and Vegetables of all the three Seasons, also Sugarcanes. The Rubee crops however in some places flourish by the Rains only, and in others, by the help of irrigation.

Kuoreea Kewal

This land is of a yellowish colour, and when dry, less liable to split, though, on being wet, is equally adhesive as the foregoing Grains and Vegetables of the three Seasons are cultivated in it with advantage.

Kuchhuwee Kewal.

This land is of an apparently black color, but, on being pulverized it assumes a white hue. Some persons name this land *Blurkee* likewise. Very little ploughing causes it to become soft, and, on being wet, is less adhesive than the two former. It is fit for the *Khureef* and *Rubee* crops, but requires more watering than the two foregoing kinds.

Powroo Khureea.

This land is of a reddish colour. It neither splits when dry, nor adhesive on being wet. It is very favourable to the *Khureef* crops, particularly if it rain. The *Rubec* crops are produced by irrigation from wells.

Powroo Toosee.

This land is of a brown color. *Khureef* crops grow in it under the influence of heavy showers. The *Rubec* crops do not vegetate well.

Powroo Doorsun.

This land partakes of the red and black colors. The *Khureef* crops grow in it by abundance of watering. The *Rubec*, such as *Wheat*, *Barley*, *Banga*, &c. vegetate well.

Powroo Kehra.

This land is of a white color, bearing in its surface a thin incrustation of a white saline matter, of which *Reh* and *Sujee* (soap ashes) are made. The former is used in washing and cleansing linen, and the latter in many useful purposes, also in impregnating Tobacco fields to give pungency to the leaves. The *Rubec* and *Khureef* crops do not grow well in this soil.

Powroo Kehra Umeer.

This land bears a color between white and yellow. If the Rains be abundant, it can be used for the cultivation of *Koorthee*, *Moath*, *Moong* and *Sathec*.

Dubhalis, also called Korebad.

Land situated in the neighbourhood of the seat of population, and intermixed with gravel, is known by this name. The following are produced in it by the help of irrigation.

Poppy or Poast.

Vegetables, &c.

Mukuee.

Joar.

Banga.

Gundoom } These flourish
Juo. ... } well.

Dubara or Bursatee.

This is a name given to Islands, or such lands as occur in the middle of a River, and are liable to be overflowed, if there be abundance of rain. It is fit for the Rubee crops, also *Kuhree*, *Surshuf*, *Turbooz*, *Khurboozeh*, and other Vegetables.

Regustan or Bulloa Zumeen.

This land produces weeds and shrubs. Nothing of value is planted in it.

IRRIGATION.

The Rain water is the best for nourishment. *Shalee* is irrigated however by water from tanks or wells, there being a certain mixture

of earth with the water, which affords considerable nourishment towards fecundity. Such water is also beneficial to the growth of the Rubee crop, also *Koaknar*, *Tuntakoo*, *Ole*, *Kunda*, *Badinjan*, *Mirch*, and *Vegetables*, &c.

Tobacco and Mirch are better nourished by Water that is brackish in consequence of its saline particles.

OF BEGAHS.

A Begah is of 20 square Gut, has, each Gut, ha measuring three Sekunduree Guz, which (the latter) is 10 *Mool, hees* or *Tists* long—A length of 20 Gutlias is denominated also a *Jurceeb* or *Russee*.

MANNER OF SOWING AND REAPING.

BHUDWEE.

Muroa.

Sown..... 5 Sers per Begah, beginning of Asarh,

Ripe..... Bhadon.

Reaped..... Asun.

Produce.....	1st sort 10	Muns	} per Begah.
	2d do. 6 or 7	do.	
	3d do. 4	do.	

It is sown on high soils on which water cannot be collected, and when grown to a span's length, it is transplanted into fields prepared for it by previous ploughing (4 times) and weeding. The Rains are sufficient for its nourishment, in default of which, the fields are irrigated by well, water.

Ripe } Bhadon.
Reaped }

Produce.....1st sort 8 }
 2d do. 5 } Muns per Begah.
 3d do. 3 }

This is sown in high soil, and in such as lies in the neighbourhood of population.—The fields are ploughed thrice and watered by well-water. After *Mukuee* is reaped the land is used for the *Rubee* crops, which are called *Putooa*.

Bora or *Lbbeer*.

Sown..... 3 or 4 S. p. B.

Ripe..... Asun.

Reaped..... Katik.

Produce1st sort 5 }
 2d do. 3 } Muns per Begah.
 3d do. 2 }

This is sown in *Banga* fields (after the cotton has been plucked,) and when it comes up it entwines itself unto the *Banga* plants. The cultivation of *Juo*, *Gundoom* and *Sursing* succeeds to the reaping of *Bora*. These are matured in the *Rubee* Season.

Mash-i-Subz.

Sown 4 S p. B.

Ripe. Asun.

Reaped..... Katik.

Produce

Produce.....	1st sort 5	} Muns per Begah.
	2d do. 3	
	3d do. 2	

This is sown similarly to Bora.

Kungnee.

Sown 4 or 5 S. per B.

Ripe Asun or Katik.

Produce.....	1st sort 5	} Muns per M.
	2d do. 3	
	3d do. 2	

This is sown in lands lying in the neighbourhood of population, and such as are high. The fields are ploughed 4 times and irrigated by well-water. The reaping of *Kungnee* gives room for the cultivation of the *Rubee* crops on the same soil.

Joonar, Juora or Joar.

Sown Asarh 5 Sers per Begah.

Ripe }
Reaped } Katik.

Produce.....	1st sort 8	} Muns per Begah.
	2d do. 7	
	3d do. 5	

This is sown in the neighbourhood of population; the fields are ploughed 4 or 5 times, and watered by the rains — After *Joar* has been reaped, *Toree* or *Juo*, of the *Rubee* *Fush*, form the next crop.

Arzun.

Arzuh or Chyna.

Sown Asuh & S. P. B.

Ripe Bhadon.

Reaped.....Asun.

Produce.....	1st sort	8	} Muns per Begah.
	2d do.	5	
	3d do	3	

The fields are ploughed 5 times,—This grows in all the three seasons, and when reaped, *Juo*, or *Troec*, are sown in that land.

VEGETABLES,

Toorb, Koondroo, Kurela, Chuchinda, Pulwul.

These are sown in lands situated in the vicinity of population, and where water may have been gathered in the rains.—The fields are fenced and ploughed 5 or 6 times, and are weeded and levelled,—Should the seeds spring up very close, the plants are removed when sufficiently grown not to injure by transplantation, and after some time, the roots are laid open by a hoe to admit the strengthening rays of the sun's beams.

*(a) Kundha.**(b) Soothnee.*

Sown Asuh.

Ripe

Reaped } Asin and Katik.

Produce.....	1st sort	{ 100 (a)	} M. p B.
		{ 60 (b)	
	2d do.	{ 60 (a)	
		{ 40 (b)	
	3d do.	{ 40 (a)	
		{ 30 (b)	

The Produce of these, although great, is the result of considerable labour and is sold very cheap. The plough is used very frequently to pulverize the earth to that degree of softness, as to render it friendly to the reception of the seeds. The fields are then levelled. When the plants spring up to about a span's length, the roots are laid open by the hoe to admit the strengthening rays of the sun.

Vegetables of all kinds are generally sown in *Kuoreea* land and where there are wells for watering.—*Bhudaree* vegetables are nourished by the rains, but those of the *Rubee* require frequent irrigation.—The rent of land, where vegetables are cultivated, is as follows.

	Rs.	
1st quality	3	} per Begah.
2d Do.....	2	
3d Do.....	1	

KHURREFEL.

Shalee.

Sown.....	10 Sers p. B.	
Ripe.....	Aghun	
Reaped.....	Magh	
Produce.....	1st sort 20 2d ditto 15 3d ditto 10	} M. p. B.

The fields are ploughed about 20 times, and when the plants are of a span's length, they are transplanted into more spacious ground, and watered constantly in default of rain, for *Shalee* fields are kept up by abundance of watering only.

Shalee.

Shuleo Baog.

Sown.....25 S. p. B.

Ripe.....Aghun.

Reaped.....Poose.

Produce.....	1st sort 10	} M. p. B.
	2d ditto 7	
	3d ditto 5	

The fields are ploughed five times and irrigated constantly until the grains are ripe.

*Shuleo Baog.**Koorthee.*

Sown.....End of Bhadon 10 Sers p. B.

Ripe } Poose.

Reaped }

Produce.....	1st sort 5	} M. p. B.
	2d ditto 3	
	3d ditto 2	

This is sown in high and level soil; the fields are ploughed 4 times.—Watering is required only sufficient to keep the ground moist.

Moong.

Sown

Ripe

Reaped

Produce

Vide Koorthee.

The fields are ploughed 4 or 5 times.

Koódrum.

Kodrum or Kodon.

Sown.....Asarh, 7

Ripe }
Reaped } ...Poos2

Produce.....1st sort 8 }
2d ditto 5 } M. p. B.
3d ditto 3 }

The fields are ploughed 4 or 5 times.

Koonjud or Til.

Sown.....Asarh. 3 or 4 Sers per Begah.

Ripe.....Aghun

Reaped.....Poose.

Produce.....1st sort 5 }
2d ditto 3 } M. per Begah.
3d ditto 2 }

This is sown in soil that is somewhat high.

Moat;h.

Sown.....Bhadon, 10 Sers per Begah.

Ripe.....Poose.

Reaped.....Magh.

Produce.....1st sort 5 }
2d sort 3 } M. per Begah.
3d sort 2 }

The fields are ploughed 4 or 5 times.

E

Toree

Toree or Ryce

Sown..... Katik, 5 Sers per Begah

Ripe..... } Mag.h. acc't. } equal

Reaped..... } Mag.h. acc't. } equal

Produce..... 1st sort 8 } M. per Begah

2d ditto 5 }

3d ditto 3 }

The fields are ploughed 6 times, and irrigated once or twice by well-water. *Toree* is a concomitant of *Juo*, *Gundoom*, *Benga* and *U'dus*, being sown along with them in the same fields, but as it ripens sooner, it is of course reaped before the others.

Mag.h. acc't. 1 to 2 ditto 1 to 2

Bajra

Sown..... Asun 5 Sers per Begah

Ripe..... } Poose

Reaped..... } Poose

Produce..... 1st sort 8 } M. per Begah

2d sort 5 }

3d sort 3 }

The fields are ploughed ten times. *Bajra* is sown in *Kuoree* land in the vicinity of population.

Nyshukur

Sown between *Mag.h.* and *P.hagoon* in spaces of 3 *Girchs*, called *Luonda*, at the distance of one cubit from each other.

Reaped, once a year, in *Poose* and *Mag.h.*

Produce

Produce.....	Rs.....	5 p11
1st sort. 10.	.....	100
2d ditto 7	.....	per Begah.
3d ditto 3	.....	1

The fields are ploughed 100 times, and never less than 20 times—They are also hoed about 20 times, and irrigated constantly until relieved in *Asarh* by the Rains. Sugarcane are cut about 5 inches from the root and expressed in a mill. The juice makes jagry, sugar and sugarcandy.

VEGETABLES.

(a) *Badinjan.*

(a) *Toorb.*

(b) *Mirch, Soorkh.*

Sown.....	Asnn.	.....
Reaped.....	Mag. h.	.....
Produce.....	1st sort.	{ 100 a } { 40 b } { 60 a } { 15 b } { 50 a } { 10 b }
2d ditto	.....	M. per Begah.
3d ditto	.....	.....

The fields of these are irrigated weekly from wells, and when the plants have attained the growth of a span's length, they are transplanted into more spacious ground : when *Badinjan* and *Toorb* are thus transplanted, they are called *Kajee*.

Sown.....	Asnn, in Kuoreca	lan l.
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Ripe

Ripe.....	} Magh.	
Reaped.....		
Produce.....	1st sort 40	} M. per Begah.
	2d ditto 15	
	3d ditto 10	

Guzur.

Sown..... Katik, in Kurocca land.

Ripe.....	} Poose.
Reaped.....	

Produce.....	1st sort 50	} M. per Begah.
	2d ditto 30	
	3d ditto 20	

The fields of these are irrigated by well water.

Shukurgund.

Sown..... In Qulums or little sprigs.

Reaped..... Magh.

Produce.....	1st sort 10	} M. per Begah.
	2d ditto 8	
	3d ditto 6	

The fields are watered from Wells.

Ole.

Sown..... Asarh.

Reaped..... After 19 months in Magh and Poose.

Produce.....	1st sort 60	} M. per Begah.
	2d ditto 50	
	3d ditto 40	

The fields require very little watering.

Shulghuri.

Produce... ..	1st Sort	{ 20 15 15 10 10 5	} M. per Begah.
	2d ditto		
	3d ditto		

Cultivated in wet soil on the side of tanks that are just getting dry—The cultivation of Katik is called *Puttooa*, and the fields are irrigated by well water; that of Aghun does not require watering.

Nukhood.

Sown.....	10 Sers per B.	
Reaped.....	Jeth	
Produce.....	1st sort 7	} M. per Begah.
	2d ditto 5	
	3d ditto 3 or 4	

Sown always far from population, and the fields are ploughed five times.

Udors Musoor.

Sown.....	15 S. per B,	
Ripe	P,hagoon	
Reaped	Chyt	
Produce.	1st sort 7	} M. per Begah,
	2d ditto 5	
	3d ditto 3	

The fields are ploughed 3 or 4 times.

Khusaree.

Sown	15 to 20 S. per B.
Reaped.....	Chyt.

Produce,

Produce.....	1st sort 7	} M. per Begah
	2d ditto 5	
	3d ditto 3	

Sown in *Shalee* fields which when reaped, *Khusaree* is left to grow and watered by wells.

Kutan.

Sown.....10 S. per B.

Ripe.....Chyt

Reaped.....Bysak, h

Produce.....	1st sort 8	} M. per Begah
	2d ditto 5	
	3d ditto 3	

Sown around Joo and wheat fields, and if a great extent, to the land. may be ploughed 4 or 5 times.

Mutur.

Sown.....5 S. per B. between Katik and Aghun

Reaped.....Chyt

Produce.....	1st Sort 10	} M. per B.
	2d ditto 7	
	3d ditto 5	

Surson or Surshuf.

Sown.....5 S. per B. between Katik and Aghun

Ripe.....Chyt

Reaped.....Phaghoon

Produce	1st Sort 5	} M. per B.
	2d ditto 3	
	3d ditto 2	

This is generally sown among *Banga*, *Juo*, *Wheat*, *Udus* and *Poppy*, and left to thrive after they have been cut.

Gishneez.

Sown.....Aghun 5 S. per B. After splitting the seeds in 2 in a mortar.

Produce.....1st Sort 5 }
 2d ditto 3 } M. per B.
 3d ditto 2 }

This is sown in tanks just as they are getting dry, and sometimes in *Kuoreca* land in the neighbourhood of population.

Urhuur.

Sown.Asun 10 S. per B.

Reaped After 11 Months

Produce.....1st Sort 10 }
 2d ditto 7 } M. per B.
 3d ditto 5 }

Sown generally with *Moath* and *Kodon*, and left to thrive after they are reaped. Around the fields *Urundee* is planted which serves for a good fence.

Urundee.

If sown by itself it is sown in *Asun* in *Turaee* land which being low and humid and nigh the river, favours the growth.—The fields are ploughed even after the shooting out of *Urundee*, and when it attains the growth

growth of a yard's length, the roots are laid open by a hoe.—It is reaped in *Chyt*; and the produce, in oil, is between 7, 5 and 3 M. per Begah.

Zeereh.

Sown.....Katik 5 S. per B.

Ripe.....Chyt

Reaped.....Bysakh

Produce.....1st Sort 3
2d ditto 2 } M. per B.
3d ditto 1 }

The fields are ploughed ten times.—*Zeereh* is sown in land where water had been collected in the rains and just getting dry.

Soa.

Sown in *Kuoreea* land, and the fields irrigated by well-water.—The seed is sometimes used in medicine. The produce is between 2, 1, and $\frac{1}{2}$ a Mun per Begah.

Methee.

Sown in the month of *Katik* in *Kuoreea* land, and the fields irrigated by well-water.—In *Chyt* it is fully matured, when the seeds are reaped, which besides sowing are likewise used in medicine.—The Produce of this vegetable is between 3, 2 and 1 M. per Begah.

Halim.

Sown in *Katik*, generally in *Kuoreea* land and sometimes along with *Shalee*.—The seeds are used in medicine.—The Produce is between 2, 1 and $\frac{1}{2}$ a Mun per Begah.

Khurboozeh.

Generally sown in *Kuoreca* lands; but *Turace* lands, or lands situated on the banks of rivers, are most productive from their possessing a rich mixture of clay and sand, so very friendly to the growth of *Khurboozeh*, where they flourish even without the help of irrigation. *Khurboozeh* is likewise sown on *Bhoor* or high and sandy soil; the fields are ploughed 10 times, the seeds being previously soaked in water and clay for the space of a week; and, when they shew signs of vegetation, are carefully sown at the rate of 14 grains in each *Thala* or bed measuring 3 square *Schunduree* *Guz*. After the seeds have taken root the fields are irrigated by well-water.—The rains prove very detrimental to the flavour of the fruits.—The produce is between 60, 50 and 40 M. per Begah, and the value of the land, or the rate of Government Revenue, is between 5, 4 and 2 Rupees per Begah.

Turbooz

Sown in *Turace* land in the margin of rivers.—Also in *Bhoor* land as described under the article of *Khurboozeh*.—This is likewise sown in *Thalas*.—The fields are irrigated 2 or 3 times.—The *Turbooz* season begins and ends between *Bysah*, *h* and *Jet*, *h*.—The Produce is between 60, 50 and 40 Melons per Begah, and the Government Revenue from 4 to 2 Rupees per Begah.

All the other Vegetables of this Season are treated in the same manner as those of *Bhudace*.—They are sown chiefly in the beginning of *Ag*, *h*, *un* and *Poose*, and reaped until the end of *Jet*, *h*;—*Kuoreca* and *Turace* lands are generally used in their cultivation.

ton land is between 5, 3 and $\frac{1}{2}$ Rupee per Begah. The value of the Government *Putta* greatly depends upon the nearness or otherwise of wells to the fields; for if they are close the rate is high, and if far, low.

Koaknar or Poppy.

The fields being ploughed 22 sers of seed are sown per Begah, and watered. The capsules arising from the Poppy are called *Dhendhee*, on which incisions are made with a knife in the morning, the juice oozing out therefrom is scraped out with a knife carefully in the evening and is termed *Uffyon*; each pod is scarified three different times. In the month of *Chyt* the seeds ripen and are called *Khushkhash*, yielding between 5, 3 and 2 M. per Begah. The value of *Koaknar* fields is between 5, 4 and 3 Rupees per Begah. The land for its cultivation undergoes the process of 20 ploughings, and is then levelled and divided into small beds.

VEGETABLES.

Peas or Onions.

Sown, in Aghun, in small beds, and when the plants have attained a span's growth, they are transplanted into more spacious ground.

Reaped in Jet, h.

Produce between 100, 60 and 40 M. per Begah.

Sown in *Kuoreea* land, the fields are ploughed 20 times and irrigated from wells.

Lehsun or Garlic.

This is treated similarly to *Peas*. The produce is between 50, 20 and 15 M. per Begah.

Badcean or Suonf.

Sown in *Aghun* in *Kuoreca* land and reaped in *Bysak,h*;—the seeds are used in medicine,

Nankhiwah or Ujwayan.

Sown in *Katik* and reaped in *Bysak,h* and *Aghun*.

Kuoreca land that is moist and lying on the banks of rivulets is used for the cultivation of *Nankhiwah*.

Muasfur or Koosoom,

The land is ploughed and sown in *Katik* 10 Sers per *Begah*. From the beginning to the end of *P,hagoon* the blossoms are plucked and used in dying linen. The Produce is 2 Muns per *Begah*. The seeds are between 7, 5 and 3 Muns per *Begah*, of which oil is expressed.

Banga or Cotton Plant.

The fields are ploughed 10 times and levelled;—10 Sers of seed per *Begah* are sown in the month of *Katik*. In the Cotton fields are generally sown *Torec*, *Surshuf*, *Mutur*, and *Udus* which are called *Wuteereh*. When these are reaped, the *Banga* fields are hoed and irrigated anew several times. If there be wells in the vicinity it greatly helps the irrigation, if not they are sunk for the occasion, as watering the fields is to be observed every week from the beginning of *P,hagoon* to the end of *Jet,h*; from which time till *Chyt* the capsules, or pods, are plucked. The produce is between 10, 7 and 5 Muns per *Begah*: the seeds are used both for the purpose of sowing and for feeding cattle. The value of cot-

ton land is between 5, 3 and $\frac{1}{2}$ Rupee per Begah. The value of the Government *Putta* greatly depends upon the nearness or otherwise of wells to the fields; for if they are close the rate is high, and if far, low.

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VEGETABLES.

Peas or Onions.

Sown, in Aghun, in small beds, and when the plants have attained a span's growth, they are transplanted into more spacious ground.

Reaped in Jet, h.

Produce between 100, 60 and 40 M. per Begah.

Sown in *Kuoreea* land, the fields are ploughed 20 times and irrigated from wells.

Lehsun or Garlick.

This is treated similarly to *Peas*. The produce is between 30, 20 and 15 M. per Begah

boozeh.

Khurboozeh.

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